THE MEANING OF "WORLD" IN TIBETAN BUDDHIST PHILOSOPHY

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Abstract

The meaning of "world" has been misunderstood because of its primary identification with the physical world as an "external totality of entities within an extensive continuum of time and space." We have traced the development of this view of nature in the Western world up to the 20th century, where new views have begun to appear. With the aid of these new views in philosophy (phenomenology) and the physical sciences, in particular, we have explicated the Buddhist understanding of "world" as it is presented in what has been called "Buddhist Cosmology." To this end, we have primarily relied on the opening chapters from Klong-chen rab-'byams-pa's Yid-bzhin rin-po-che'i mdzod, which goes beyond the standard presentation in the Abhidharma-Kośa. Following Klong-chen-pa, we deal with the presentation of how the world arises from the Ground of Being, i.e., the epistemological and ontological bases of Buddhist cosmology based on the Citta-mātra and Mādhyamika schools of Buddhist philosophy; the explanation of how our world-system constitutes a Buddha-field; and the evolution of our world-system, with particular attention paid to the concept of the 5 Evolutive Phases ('byung-ba). Of special interest is Klong-chen-pa's treatment of these in his sNying-thig writings. We find there a view of the universe which is neither physical nor mental, with many striking parallels to the philosophical implications of quantum physics.

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Preface

The first half of the 20th century witnessed the breakdown of traditional ideas in many of the sciences and philosophical trends of the Western world. The task of the second half is to produce a new vision of the world. An important ingredient in this new vision should be the emergence of Eastern ways of thinking in Western culture. Up until now, however, Buddhism has not played the role it could have had in this transformation, because of inadequate presentations in the West of the highly-developed aspects of its philosophy, which should prove to be of interest to Western philosophy, psychology, and the philsophical interpretations of the physical and biological sciences. It is our thesis that the inward movement of Western culture itself has brought it to the threshold of conceptions which constitute the very basis of the Buddhist world-view, just as methodically as Buddhism has evaporated from Asia, under the decay of traditional systems and Westernization.

But before we can understand the Buddhist approach, we must take a careful look at the traditional Western views on nature and world, as well as those sciences and philosophies which have tried to come to terms with this heritage in the 20th century. Other comparative approaches could have been taken, such as examining the religiously-oriented cosmological schemes of Christianity and in Greek thought. We chose Aristotle as a starting point, however, because he seemed to be normative in his lay out of the basic

concepts in the Western approach, which were crucial in both the development of Christian metaphysics as well as that of modern natural science. Our aim was to bring out the roots of our everyday understanding of the idea of the "natural world," so characteristic of our culture, but so lacking in the Buddhist conception of the world.

In presenting the Buddhist ideas, we have not intended to survey the topic which goes under the name of "Buddhist Cosmology," which actually contains information on everything from anthropology to zoology, although more detailed surveys are needed to update the "story-telling" approaches of Poussin and others. We have directed our energies towards explicating the meaning of the mythological "story-telling", by utilizing Tibetan works which have not been studied in the West as of yet. What is required for such a hermeneutics is, first, to gain the correct "mode of access" to the subject matter (and there may be many, owing to various levels of interpretation in the indigenous texts themselves), and, second, to make a detailed study of the mythical symbolism involved, so that our interpretations are hopefully based on what the writers understood by that symbolism at the time. Unfortunately, it seems that much of the Buddhist Cosmology was handed down as mere "survivals," half-understood symbols from the general stock of Indian tradition. Fortunately, we can make a detailed study of the concept of the Evolutive Phases ('byung-ba, usually translated "Elements"), because of the contributions of Klong-chen-rab-'byams-pa, a 14th century Tibetan scholar,

who offers different levels of interpretation of the _'byung-ba_, which go far beyond the information of the _Abhidharma-Kośa_ and its commentaries, but without which, I believe, the subject matter cannot be properly understood. And without a sophisticated understanding of these Evolutive Phases, the Buddhistic understanding of the world and "nature," will remain another "likely story" from the world's mythologies, of little interest to those participating in the search for a new vision mentioned above. Thus, we address ourselves to students of Buddhism and Asia who know something of the mythology, but would like to plumb its meanings a little deeper; and to others who might be interested in looking at a sophisticated cosmology from a culture with different presuppositions than our own. For these latter readers, I refer them to the summary of the mythology given in the reference cited in Chapter IV, note 8.

Footnotes are to be found at the end of each chapter.

Diacritical marks have been left off some Sanskrit words, such as samsara and nirvana, which have become of such common usage, that I use them as part of our language.

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I. The Development of the Traditional Western View of Nature and World, and Its Breakdown in the 20th Century

The Encyclopedia of Philosophy offers the following two definitions of Cosmology: 1) a philosophic inquiry into "the meaning and validity of the most universal conceptions of which we seek to understand the nature of the individual objects which make up the experienced world, 'extension', 'succession', 'space', 'time', 'number', 'magnitude', 'motion', 'change', 'quality', and the more complex categories of 'matter', 'force', 'causality', 'interaction', 'thinghood', and so forth." and 2) "a science in which the joint efforts of the observational astronomer and the theoretical physicist are devoted to giving an account of the large-scale properties of the astronomical universe as a whole." (1) In our exposition we shall weave these two approaches together; this is even a necessity in light of the revolution in our conception of the categories listed in definition 1 during the 20th century, particularly in the physical sciences. It is precisely this critical dialogue between the categories of traditional philosophy and the discoveries of contemporary science that shall lead us towards the theoretical bases of Buddhist Cosmology. This involves the clarification of what actually is the object or "observable" of contemporary scientific models in relativity theory and quantum mechanics, especially.

It is only against the background of Aristotelianism and its development through the Middle Ages, however, that one can fully come to appreciate how the development of the traditional Galilean-Newtonian-Cartesian view of natural science came about. It came as the result of the final tearing apart of the Aristotelian matter-form correlation (the "substantial form" of the Medieval Scholastics), so that matter could be fully treated as an independent substance, with the metaphysical problem of form and its entelechy considered as irrelevant to natural scientific inquiry. In the modern view, the notion of the physical (_physis_), material (_hyle_), and substantial (_ousia_)have become lumped together, but in Aristotle they were distinguished, although, as we shall see, not as unambiguously as Aristotle thought.

But before giving Aristotle's definition of "Nature" (_physis_), we must also realize that his thought, too, came as a conscious critique of earlier Greek speculation on Nature. It is important to understand the richness the term _physis_ had before his time, in the search of the _physiologoi_, the natural philosophers, for the origin of the ceaseless strife among the elemental powers that constituted the world (Earth, Air, Fire, Water, Hot-Cold, Wet-Dry):

> "It is this interest in the origin of all things - of the world, of living beings, of man, and of his social institutions - which characterizes the scientific thought of early Greece. This attitude implicitly

affirms the conviction on which the creation myths are based: that by discovering the original state of affairs one may penetrate to the secret core of things. Hence it is that physis can denote the true nature of a thing while maintaining its etymological sense of the 'primary source or process' from which the thing has come to be. 'Nature' and 'origin' are combined in one and the same idea.... Whereas his predecessors investigated 'the way each thing naturally comes to be rather than the way it is,' Aristotle insists that it is not the unformed embryo but the full structure of the mature individual which calls for primary attention, 'for the process of generation exists for the sake of the complete being (ousia), not the being for the sake of generation.'" (2)

This concern of the early philosophers with origins places them closer to mythical thinking than Aristotle. Mythical thinking, as Eliade has well shown, is essentially archetypal and exemplary, recounting the tale of what the Gods did "in the beginning" to make the world what it is today. But these early thinkers were separated from the mythical world by the discovery of philosophy as wonder, and thereby the detachment from the immediate world of experience which is the raw material of myth. Theoria was born, along with the idea of knowledge as episteme, the search for "Being as it really is in itself," as opposed to doxa, the opinions of the unphilosophical. Thus the rift between the "Life-World" and theoretical thought was opened up at the very beginning of Greek philosophy, with the emphasis on the "objective" study of Nature as a part of a World-in-itself, so foreign to the Buddhists. Also, interestingly enough, modern science has been dominated by Aristotelian substantialism plus the mythological prestige of "origins", which culminated in 19th century materialism, in which everything was to be explained in terms of primordial constituents. For the Buddhists, however, the lure of "origins" to penetrate to the "secret core of

things" had no hold in the face of the overwhelming experience of impermanence, which destroyed the "core" that both Aristotle and his predecessors sought to account for.

Aristotle rejected the speculations of the earlier cosmologies because they tried to account for the "complete being" in terms of a material substrate (hypokeimenon, hyle). Here we have the basis for 2 viewpoints on evolution which have bedeviled Western thinking down to the present, one ending up as a rejection of teleology in evolution in a concern for elementary constituents and origins (natural science), the other making teleology the sine qua non of evolution in a concern for a static, Absolute reality as an "end" (Christianity). The 2, of course, have been periodically united, as when the Laws of Nature were seen as the workings of the Creator. The basic view of Greek philosophy was inherited by both: that all things in nature tend towards a definite and proper end in a universe governed by orderly, rational law. We shall see how Buddhism and some recent trends in contemporary science have attempted to overcome this conflict through the discovery of what might be called "immanent teleology" or "self-regulation/organization" in natural systems.

For Aristotle, then, a natural (physei) being is one which has an arche (principle, source) of kinesis (change) in itself. (4) This physis, as an arche, constitutes the very ousia (substantial "beingness") of the natural being. The ousiai, as self-subsistent individuals, are "achieved form," and the process of attaining or actualizing (energia) the potentiality (dynamis) which these substances, as entelechies ("having their ends in themselves"), have, was called kinesis. This is the

primary meaning of _kinesis_; movement, as locomotion (change of place), was only one category of change. In the classical mechanistic view of nature (by the term "classical" we shall always refer to its common usage in terms such as "classical physics"), locomotion was made the _exclusive_ form of _kinesis_, i.e., the means to account for all change in, and of, substances.

In considering the notion of _ousia_, substance, as essence or "achieved form," Aristotle rejected universals, genus, and substratum as possible candidates for this category. This substratum he termed _hyle_ (matter), "that out of which" physical things come to be, as a capacity (_dynaton_) to be or not to be. (5) In other words, _something_ must undergo the change from potentiality to actuality; thus, the _hyle_ is the _hypokeimenon_, the substratum. _Hyle_, for Aristotle, was a concept by analogy: just as bronze is to a statue, so is the _hypokeimenon_ to the _ousia_, the particular "this" (_tode ti_). In the language of the Scholastics, the first was the _materia signata_, qualified matter, while the second was the true _prima materia_. _Hyle_ was not some stuff, but rather a correlative to each kind of form (_eidos_), although it is itself indeterminate. At _Metaphysics_ 1029a, Aristotle defines _hyle_ as:

> "that which is in itself neither a particular thing nor a certain quantity nor assigned to any other of the categories by which being is determined." (6)

There is also a _hyle_ of intelligible things, such as the objects of mathematics. _Hyle_ is a postulate, unknowable in itself for Aristotle, and thus the development of the concept of matter

in Western philosophy and science became the supreme example of what Whitehead called "The Fallacy of Misplaced Concreteness." It was form which gave _hyle_ is determinateness, which made for a self-subsistent individual. But here Aristotle was equivocal. He had stated, it is true, that _hyle_, the "that out of which," cannot be the _arche_ (principle or source) of _kinesis_ (change) of natural beings, since it is merely the substratum of change, while only "that from which as a source" (_arche_) could be the impetus for change. For something to be (_ousia_), we must also have the form (_eidos_), which is the _telos_ of generation. But _hyle_ was also the _dynaton_, the capacity for something to be. Doesn't this "capacity" belong just as much to the form? And how could the _hyle_ have this capacity if it was something completely indeterminate?

It was precisely these problems which the Medieval Scholastics inherited. And it was this problem of the _hyle_, plus the influence of Neo-platonic and Christian dualism, which served to provide the basis for the severance of the "metaphysical" correlation of matter and form. Form became the dominant principle through these influences, and hence achieved a kind of independence. Aquinas is a good example of how Medieval Scholasticism, paradoxically enough, paved the way for the modern scientific view of matter, for he made _hyle_ (_materia_) an individuating principle, the extensive stuff of individual bodies. He also held that form did not possess being in-itself, but

received its act of being (esse) from God. The next step would be to conceive of matter as receiving its own act of being from God, and this is exactly what was done. Giordano Bruno was really the herald of the modern (classical) view, for, basing himself on Aristotle's above-mentioned equivocation, he held matter to be the motive principle of change. The idea of substantial form was thus deposed, and the scene was set for the development of modern natural science:

> "Foundational in the modern theory of nature is the concept of matter as an independent actual existent or substance, in itself devoid of any internal process of change or becoming, and capable of only change of place, locomotion." (7)

By not resolving the problems inherent in the matter-form doctrine of Aristotle, but merely throwing out the form and concretizing the concept of matter, while retaining the notion of substance, modern science was only saved from coming to grips with these errors before the 20th century because of its tremendous success within a limited area of operation (what is usually called the "realm of middle dimensions"). There is no need to go into detail here about the classical world-view of natural science from Galileo to the end of the 19th century, with its absolute space and time, atomic matter, motion as displacement in space, all governed by a rigid determinism. For this, Part I of Milic Capek's excellent survey, The Philosophical Impact of Contemporary Physics, is highly recommended. (8) The basic problem, whether of Aristotelian matter-form or classical atomism-mechanism, lay in the concept of ousia, substance as self-subsistent individuality. Descartes

brought out this aspect of the concept of substance very well: "By substance we can understand nothing else than an entity which is in such a way that it needs no other entity in order to be." (9) The rejection of the notion of self-subsistent individuality is one of the main themes of Buddhist philosophy, as well as what the physicist David Bohm has called the "process metaphysics" of contemporary natural science:

> "Perhaps even the electrons and protons of an inanimate nature are also organized in some sort of very complex self-regulating hierarchy. The reason I suggest this is that in a metaphysics based on the notion of process we cannot take the continued existence (survival) of any particular aspect for granted. Because the basic order of process is eternal change of everything, we can no longer appeal to the mechanical notion that certain basic objects, entities, etc., 'simply exist' with constant and invariable properties. Rather, the survival of any particular thing, however 'basic' it may be thought to be, demands a complex process of regulation, which provides for the stability of the thing, in the face of the eternal change in all that serves to constitute what it is." (10)

Thus, the question, "What?", to which the Aristotelian category of substance was the answer in regard to any particular thing, is answered here not in terms of another entity or some-thing which exists, but rather refers to a complex self-regulatory process. This ontological position was expressed by the Mādhyamika school of Buddhist philosophy, who were known in Tibet as ngo-bo-nyid med-par smra-ba (niḥsvabhāvavādin), those who do not accept that the fact or substantiality of things is itself an existent thing.

The notion of ousia in Aristotle is so difficult because it

is as much an indication of a particular being, as well as a way of being. It indicates the _tode ti_, the concrete individual, as well as its "essential nature," the "how" of its being. This ambiguity has been caught in its full ontological context by W. Marx in his _The Meaning of Aristotle's Ontology_:

> "In the 5th Book, the book of definitions of the _Metaphysics_, Aristotle has set out to define 'being' (_Meta_. 1017a,8). However, when dealing with 'being-as-such' (1017a,22), he actually does not explain it, but refers to the schemata of categories, to the 'many ways one speaks about being.'... man, contemplating 'being as being,' trying to find the natureness, 'being-as-such,' discovers that only the natureness of substantiality is accessible to him." (11)

This is the "Ontological Difference" of Heidegger, the difference between Being-as-such and Being-this-or-that. The concept of substance is the result of confusing the two, making Being-this-or-that into Being-as-such, or vice versa. Thereby Being is reduced to the totality of particular existents (_dgnos-po_) existing substantially (_rdzas-yod_), each having its own essence (_rang-gi mtshan-nyid_). Substance provides the classification whereby one identifies the thing in question as the subject of discourse. Thus, it is not merely one among the many categories of Aristotle, but the very possibility of addressing Being according to such a categorical scheme. This gives rise to the distinction between existence (_that_ something exists) and essence (the _what_ of this existence). In such a view, the subject-object distinction is taken as an external relation between two independent entities. Early Buddhism by no means escaped this type of substantival thinking, and it was only with the Mādhyamikas that this concep-

tion of Being was finally swept away, as is being done today in assessing the philosophical implications of relativity theory and quantum mechanics. The Mādhyamika vision is that of the unity of Being-as-such and Being-this-or-that, Absoluteness and relativity, which they expressed as the indivisibility of Openness (stong-pa) and Appearance (snang-ba), which is set forth in the first and eighteenth chapters of Klong-chen rab-'byams-pa's Yid-bzhin rin-po-che'i mdzod translated below. But from the beginning the Buddhists were restrained in their use of the notion of substance because of the basic principle of anatman (bdag-med), the non-existence of an unchanging constitutive principle in the entities of reality.

The notion of substance stands at the basis of the traditional (ancient and classical) Western conceptions of "world":

> "The question 'What is the nature of that which is?' is asked within the context of an understanding of the world as a totality of that which is.... In such an approach the world as 'cosmos' is pictured as an external totality of entities within an extensive continuum of time and space." (12)

The basic change from the ancient to the modern classical conception of substance lay in its "quantification," that is, it became a constant substantial quantity (of either matter or energy (13)) which "merely persists." For the Greeks the mathematization of nature by the Pythagoreans and in Plato's Timaeus, and its atomization by Democritus and others, remained essentially qualitative. It took the above-sketched development of the concept of matter for the modern mathematization of nature to occur.

The atomistic substance of classical modern science was held to exist according to what Whitehead called "simple location":

> "To say that matter has simple location means that...it is adequate to state that it is where it is, in a definite finite region of space, and throughout a definite finite duration of time, apart from any essential reference of the relations of that bit of matter to other regions of space and to other durations of time.... I shall argue that among the primary elements of nature as apprehended in our immediate experience, there is no element whatever which possesses this character of simple location." (14)

Whitehead then goes on to show how the atomic notion is an abstraction which we, however, take as immediately given (the Fallacy of Misplaced Concreteness). His refutation of the notion of simple location in our immediate experience is attempted in his theory of prehension. He does however, hold that the abstraction process can be done in a legitimate way, although in abstracting we tend to ignore the larger totality that we have made our abstraction from. The last sentence of the above quotation is particularly important, for it reveals a common link in the critiques of the classical atomistic view in the 20th century, in physics with relativity and quantum mechanics, in psychology with Gestalt theory, and in philosophy with phenomenology. All of these disciplines have tried to bring the sciences back into a closer relation with the Life-World, in an attempt to overcome the classical prejudice that "science" (scientism) dealt with the primary reality of primary qualities in objective space and time, while the Life-World was relegated to the subjective limbo of secondary qualities. In this classical "Bifurcation of Nature," as Whitehead called it, the external world was

held to be the independently-existing _cause_ of our perceptions, where the subject became essentially an embarassment in a totally objectified world. But today science is no longer viewed by many as giving knowledge of an objective world-in-itself to a detached observer, as the Indeterminacy Principle in quantum mechanics, for one, testifies to. We shall discuss a "Transactional" theory of scientific and ordinary perceptual cognition in the next chapter when we present the epistemological bases of Buddhist Cosmology.

The conceptions of space, time, and matter in relativity theory and quantum mechanics are actually closer to our immediate experience, phenomenologically considered, than the common-sense Newtonian ideas. This has been hinted at by Whitehead in denying the existence of "simple location" in our immediate experience. But how is it possible that the "introspective" analysis of our experience, or recent experiments in the psychology of perception (15), could possess any similarity to the highly abstract mathematical formulations of contemporary physics? First, phenomenologically viewed, the theoretical approach of the sciences can be seen as a special mode of the intentionality, which is the origin of all meaning, that characterizes man's Being-in-the-world. Heidegger, in his _Being and Time_, has basically "existentialized" the intentional analyses of his teacher, Husserl. For Heidegger saw that the concept of consciousness could not do full justice to the phenomenon of intentionality, for consciousness is not merely a knowing, but also an _act_, and thus that one could properly speak

of the intentional structure of man's _existence_. The concept of _subjectivity_, as the mode of being of man's existence and not merely the property of a monadic consciousness, encompasses the concept of consciousness. Knowledge is a special mode of Being-in-the-world. This also means that meaning, which is bestowed by intentionality, "transcends" consciousness, not in the ordinary realistic sense, but because it resides more primordially in the intentional structure of Being-in-the-world. Because of this structure, knowledge is not a mere mirroring of an objective world-in-itself, but, speaking in terms of consciousness, a correlation of intentive acts and their intended (meant) objects. Existentially speaking, knowledge is the "light" of conscious existence as Being-in-and-to-the-world, i.e., particular beings can "shine forth" only in the meaning disclosing openness of human existence. This position transcends the position of the usual sort of epistemological subjectivism.

We can constitute an objective world of scientific investigation by taking up a certain attitude towards the original field of presence that is intended in our everyday dealings with the world. That is, man's way of being is always a pro-ject or fore-sight involving his "instrumental" dealings with worldly beings which Heidegger calls Ready-to-hand (_Zuhanden_). The scientific pro-ject, however, deals with these beings as Present-on-hand (_Vorhanden_), as ob-jects for our theoretical gaze abstracted from their everyday instrumentality. (It is only based on such dealings, it should

be noted, that things can be seen as "merely persisting.") But this Present-on-hand is a limiting and abstracting consideration from the all-encompassing attitude of total involvement in the Ready-to-hand. We focus only on the objective side of our worldly involvment in the scientific project, in order to concentrate on particular aspects of our original field of presence in their mode of being Present-on-hand. Now, the Present-on-hand, of course, is just as much a part of our everyday experience as the Ready-to-hand, and the classical notions of space, time, matter, causality, quantity, etc., amply testify to this. Thus they proved totally inadequate outside the realm of middle dimensions of our daily life. New developments in 20th century science have increasingly had to make use of "meta-concepts" of a more highly abstract nature in order to escape the viewpoint of our macroscopic prejudices, but in doing so they have actually moved back towards our immediate experience rather than farther away. This is the crucial point, for both scientific and ordinary perceptual cognition are equally abstracting in their dealings with the original field of presence.

This brings us to the second point, which David Bohm has brought out well by showing how relativity physics and ordinary perception are both characterized by the search for relative invariants abstracted from and brought to our experience (16). The objects of our common-sense and Newtonian scientific view are expressions for what we have found to be relatively invariant in our dealings with the environment. Objects are merely hypotheses

for how certain events and operations are related and correlated in our experience, which we bring to that experience based on past experiences. Scientific and ordinary perceptual cognition are both essentially predictive in their purposes. The basic difference is that science makes its predictive project conscious and explicit, and sets up rigorously defined rules in order to make the connection between perception and hypothesis more precise. As Bohm has pointed out, science should not be regarded as a body of knowledge about the world, but rather as a means for extending (through scientific instruments) and refining (through scientific method) our perceptual exploration into new domains of the world at a higher level of abstraction than in ordinary perception. In this respect, we must be careful not to take Heidegger's distinction between the Ready-to-hand and the Present-at-hand as one of temporal priority in experience.

Milic Capek has approached the same problem in a slightly different way (17). After showing how the classical common-sense notions of space and time have broken down in contemporary physics, he realized that rather than making further constructions based on such uncritical notions, it might be more productive to look for a solid basis for the new physical ideas in an "introspective" analysis of space and time in our immediate experience. It should be remembered here that immediate experience doesn't mean the old Empiricist notion of the awareness of certain elemental givens out of which reality may be built up. Rather, immediate experience is a process, an intentionally-structured Being-towards-the-world as a global

presence. Just like Bohm, Capek shows that our immediate experience of time is not a succession of "knife-edge" nows moving uniformly from the past into the future, a view which is only arrived at after a high degree of abstraction; the same may be said for the notion of individual bits of matter. Essentially both have applied a Gestaltist approach: in listening to a melody, for instance, we are not aware of a mere arithmetic addition of momentary notes, but rather a "whole-part" Gestalt of a note in its context in the melody. Bohm states:

> "we do not perceive momentary sensations, to any appreciable extent. Rather, we perceive an over-all structure that is abstracted from these, a structure evidently built up over some period of time. We have already seen in connection with optical perception, for example, that clues obtained over some time may come together at a given moment and give rise to a new structure of what is perceived. It evidently makes no sense to say that this new structure is based only on the very last clue to be received.... the effort to order the totality of one's perceptions in terms of a single, unique time order must lead to confusion and absurdity." (18)

As we shall see below, Capek calls this conception of time (which, in relativistic thinking, cannot be divorced from space) "pulsational", as it is inseparable from the activity of matter-events at any stage in a process, whether it be of a particle or of the universe. This <u>structuring</u> of experience by means of "clues" obtained over a period of time also calls to mind the Yogācāra theory of <u>bag-chags</u> (<u>vāsanās</u>) that Klong-chen-pa presents in his discussion of the epistemological bases of Buddhist Cosmology, translated below in the next chapter.

In this view of perception and science that we have been discussing, both science and philosophy can participate in the

goal of explicating man's original experience, in making explicit what is contained only implicitly in that experience (and thus the source of our incritical common-sense ideas), rather than engaging in explanations based on postulates that then pass for reality. Joseph Kockelmans brings out this relationship of science and philosophy:

> "Our original being-to-the-world is the ultimate root of all scientific activity whatsoever, and the original object of any science arises through thematization (19) from the original field of presence. But if that is true, then this original scientific experience - and indirectly therefore also any act derived from it - still contains something of that original contact insofar as it expresses a certain aspect of the be-ings which appeared originally in that contact. While it is true that this aspect was artificially isolated from the others with which it was essentially connected, it is also true that in this way it could be brought to light in a much clearer and sharper fashion. Now, it must be possible to integrate this clear and sharply-defined knowledge of that aspect again into the whole which appears to us in the field of presence proper to the attitude which involves us totally. But it is precisely this total involvement itself which philosophy has as its starting point and object of its considerations." (20)

Thus, for example, the ideas of space and time in the theories of special and general relativity can become part of the quest for a more careful explication of our immediate experience of them, in order to pass beyond uncritical, worn-out conceptions, so that we may achieve a more satisfying involvement in a world seen afresh. It is not that these theories provide us with the reality of space and time, such that every philosopher and intelligent person must know them in order to talk about space and time. Science can only provide us with an objective model with which we can explore; the

integration of such models into our vision of the world is a further task with critical demands of its own.

Now, we have seen that all the above disciplines have revealed that the Newtonian universe of atomistic objects in absolute space and time is a derivative abstraction from a unified field of inter-dependent existence, in which, "every spatio-temporal standpoint mirrors the world," to continue Whitehead's thoughts on the critique of "simple location" discussed above. (21) Stated phenomenologically, this means that concrete givenness is not an isolated collection of granules of the traditional Empiricist approach, but a global givenness, a "concrete global configuration." (22) But, as Milic Capek has pointed out (and here is where science can make its contribution to the philosophical quest), the world is not a timeless, completed entity: this act of mirroring takes time. (23) This involves the incorporation of the basic idea of special relativity into the concept of the world (so as not to spatialize time): the impossibility of absolute simultaneity. There is no block, spatial-container universe possessing an instantaneous configuration of all entities at any given moment. There are no instantaneous "cuts" across 4-dimensional space-time, to use the words of Capek. Time does not flow uniformly into the future for non-causally-related contemporaneous events, as in the Newtonian universe. The mirroring of the past in an event is different from its mirroring of the future, which is only a potentiality: the universe is always "incomplete" in

space-time. In the classical form of Laplacian determinism, past and future were equally determinable by the "state of the universe" at a given moment, and could be unambiguously predicted if given enough information, or so it was believed.

To state the problem somewhat differently: the notion of substance has been replaced in modern physics by that of event. There is no substratum macroscopically (no ether), or microscopically (elementary particles cannot be said to persist through time). The wave particle duality in quantum mechanics, for instance, is only a paradox if one is still thinking that they must be waves and/or particles of "something." The relativistic identification of matter-energy with "local irregularities" in the curvature of space-time, has also served to obliterate the distinction between "full" matter and empty space. Not only this, but the classical separation of matter and motion has collapsed; the distinction between thing and event, process and substance are merely macroscopic prejudices. Capek sums up:

> "We have listed important reasons why microscopic 'particles' can be regarded neither as isolated bits of material preserving their identity indefinitely nor as motions of an elastic quasi-material medium (the aether). Although we can still speak of their <u>individuality</u>, it is the individuality of <u>events</u> rather than <u>things</u>; the alleged 'permanence of a particle through time' (which seems to be always, contrary to the claims of classical atomism, of <u>limited</u> duration) is in reality nothing but a string of events. The individual world-lines of 'particles' are constituted by the succession of chronotopic pulsations. But precisely this succession of events is responsible for the 'vibratory' or 'undulatory' character of particles..." (24)

"Pulsational," as we have noted above, is Capek's term for the

qualitative differences between successive moments of duration, where time has not been broken into atomistic "nows", but rather presents a changing pattern, as in the unfolding of a melody. That is, before time may be re-presented as a series of "nows", it is presented as a complex Gestalt- (or "ecstatic", literally "standing outside itself," in Heidegger's terminology) structure, whereby the "now" is a unity of process which takes over the unfinished aspects of the past in the light of future possibilities. In this sense, it "mirrors" every other event. Here the psychological, phenomenological analysis, and the physical theories meet, in subjective and objective models which point to the reality of time. It is such a meeting which can reveal to us the true object of the sciences, and the subject matter of Buddhist Cosmology.

It is important to understand the revolutionary conceptions that quantum physics, in particular, has ushered in. In the classical view, the passage of time was accidental to the essence of the particular entities. But in quantum theory, the vibratory nature of matter means that time is of the essence:

> "as a note of music is nothing at an instant, but requires a whole period in which to manifest itself, so the vibratory entity of a primordial unity of matter requires a definite period of time, however small, for the expression of its essential nature.... A thing is what it is by virtue of the serial unfolding of pattern through time; if one attempts to isolate an object at a single, non-temporal instant, apart from the instants preceeding and following it, the object loses its essential identity. The object requires a self-defined, indivisible epoch for its realization." (25)

The key point here is the critique of time as a succession of "non-temporal instants", for, as the Buddhist's themselves noticed in criticizing earlier notions of "momentariness" among themselves (skad-cig cha-med), if such a moment is itself temporal, then it must be further divisible. In the conception we are presenting, individuality (particle) and continuity (wave) are no longer contradictory. For anything to be (to become, to happen) takes time: this is the main point to be learned from relativity and quantum theory, in which a non-substantialist view of atomism and individuality is developed. The same problem has been discussed on the "subjective model" side by Aron Gurwitsch, in contrasting Husserl's conception of consciousness with that of Hume's. (26) In Hume's view temporality characterizes consciousness as a succession of "nows" (perceptions) in which the notion of identity is in opposition, for it is a mere belief of the "vulgar" akin to our belief that a cinematographic image is a real continuity. But this is only one dimension of consciousness: the phenomenon of intentionality has been ignored. The bestowing of an identical sense on successive presentations of an object by intentionality is equally a fact of consciousness as its successive states. In fact, temporality and identity are co-implicates. Without temporality, identity (identifying something as one and the same) is not possible; without identity, the continuity of succession would be impossible, and thereby the notion of difference would be impossible, such that

Mr. Hume would not even know if he were just a bundle of successive momentary perceptions. Thus, succession, and the retentional-protentional structure of the intentionality of consciousness, are inseparable. We shall fully discuss the implications of this structure in the next chapter, when we deal with the epistemological bases of cosmology.

Now, given this "event" view of space, time, and matter, we may say that an event as a "fact" would be only present now. My having gone to Berkeley, for instance, doesn't constitute a present property that I am in possession of. I am <u>still</u> not going to Berkeley. It <u>was</u> a fact I went to Berkeley but it is not a fact now. The world is not a collection of atemporal facts, and, as we have seen, events cannot be simultaneously juxtaposed at a given moment. Here is where the Buddhist notion of <u>anātman</u> (<u>bdag-med</u>) is applicable both to those events internally constituting a Self, and externally constituting a world of facts. Both are merely logical constructs (<u>rnam-rtog</u>, <u>vikalpa</u>). If there are no past properties that "I" can factually possess, what is the basis for the "I" as the owner of all the states related to one another in "my" stream of existence? The Buddhist reply is absolutely none, except for making a conventional designation. This is not to deny individuality or uniqueness, as Capek has pointed out above in reference to the event-character of "particles," which are rather quantized events than substantial entities. There is merely the world-line of mutually-related and functionally-correlated (<u>rten-'brel</u>) events,

labelled "me" or "particle." But this "web" of events is not a mere succession but a complex, self-regulating hierarchy. All that we can say about the relation of my having gone to Berkeley and "me" is that it was an impetus and condition for other events, and the unique relation of events labelled "I" requires no center as owner, or even central-event, to determine the relationship of these events to each other. (27)

Now, where do we go once we have destroyed the notion of the world as a collection of entities-facts in a container? The basic problem, for cosmology, in the Western ontology that began (or was at least systematized by) with Aristotle, was that, as Heidegger noticed, the phenomenon of "Worldhood" had been passed over due to the substantival approach. To this idea we now turn in setting forth the epistemological and ontological bases of Buddhist Cosmology.

Notes to Chapter One

1. Encyclopedia of Philosophy, Edwards, Paul, ed., Macmillan and The Free Press, New York, 1967, vol. 2, p.238.

2. Kahn, C., Anaximander and the Origins of Greek Cosmology, Columbia Univ. Press, New York, 1960, pp.202-3.

3. See below chapters 3 and 4.

4. See Metaphysics, Book , chapter 4 (Ross tr., pp.295-6).

5. Our discussion of hyle follows that of Leclerc, I., The Nature of Physical Existence, Allen & Unwin, London, 1972, chapter 8.

6. ibid., p.117.

7. ibid., p.151.

8. Capek, Milic, The Philosophical Impact of Contemporary Physics, Van Nostrand, Princeton, New Jersey, 1961.

9. Descartes, Principles of Philosophy, para. 51.

10. Bohm, David, "Further Remarks on Order," in Waddington, C.L., Towards A Theoretical Biology, Edinburgh Univ. Press, Edinburgh, 1970, vol. III, pp.51-2.

11. Marx, Werner, The Meaning of Aristotle's Ontology, Martinus Nijhoff, The Hague, 1954, pp.27, 33-4.

12. Schrag, C., Experience and Being, Northwestern Univ. Press, Evanston, Illinois, 1969, pp.44, 259.

13. See discussion on "The Inadequacy of the Quantitative View of Nature," in Capek, op. cit., pp.322ff.

14. Whitehead, A.N., Science and the Modern World, Macmillan, New

York, 1926, pp.84-5.

15. See the experiments cited in Bohm, David, Appendix to <u>Special Relativity</u>, "Physics and Perception," Benjamin, New York, 1965; and Platt, John, "The Two Faces of Perception," in <u>Perception and Change</u>, Univ. of Michigan Press, Ann Arbor, 1970, pp.25-73.

16. Bohm, ibid., pp.185ff. For example, the notion of "fixed quantities of substances, having constant mass," had to be dropped because mass was discovered "to be only a relatively invariant property, expressing a relationship between energy of a body and its inertial resistance to acceleration, along with its gravitational properties." (p.218)

17. Capek, op. cit., pp.361-81.

18. Bohm, op. cit., pp.208-9.

19. Thematization refers, in phenomenology, to the perceptual noema towards which one's attention is directed, such that various perspectives on that object may be co-intended as pertaining to one and the same noema. In the same way, Heidegger applied this term to the process whereby science delineates its specialized subjects. A theme always occurs within a thematic field, the total context in which this theme exists, as a mathematical axiom refers to a whole context of other propositions. Intentionality refers to the fact that consciousness is always consciousness <u>of</u>, and that what we are aware of are <u>meanings</u> which are constituted in a complex

set of cognitive acts. This makes consciousness more than a serial interiority, a la Hume, isolated from a world-in-itself; the subject-object distinction becomes one of correlatives, as in Bohr's epistemology of quantum theory, rather than between two entities.

20. Kockelmans, Joseph, Phenomenology and Physical Science, Duquesne Univ. Press, Pittsburgh, 1966, pp.179-80.

21. Whitehead, op. cit., p.133.

22. Schrag, op. cit., p.34.

23. Capek, M., "Simple Location and the Fragmentation of Reality," in Process and Divinity, Reese, W.L., Open Court, LaSalle, Illinois, 1964, p.95.

24. Capek, The Philosophical Impact of Contemporary Physics, op. cit., p.375.

25. McKenna, T., & McKenna, D., The Invisible Landscape, Seabury Press, New York, 1975, pp.32-3.

26. See Gurwitsch, A., "On the Intentionality of Consciousness," in his Studies in Phenomenology and Psychology, Northwestern Univ. Press, Evanston, Illinois, 1966, pp.124-40.

27. Gurwitsch, "A Non-Egological Conception of Consciousness," in ibid., pp.287-300, presents a Western version of the anatman-principle.

II. The Cosmos as the "How" of Being: Ontological and Epistemological Bases of Buddhist Cosmology

Heidegger's notion of Worldhood arises out of his "instrumental" analysis of Dasein's dealings with the world. And here too Heidegger has "existentialized" an aspect of the intentional analyses of Husserl, namely, the phenomenological concept of "horizon." Husserl noticed that perception was a process of "fulfillment" (Erfüllung), in which different "profiles" of an object (the front of my house, the side, etc.) are ordered together in such a way as to intend one and the same perceptual noema. This is an open-ended process in which new perspectives are always possible, and which may break down if further perspectives do not fulfill the original intention of what I believe I am seeing. The totality of these "profiles" Husserl gave the name "internal horizon." But any object also occurs in a certain context (the house is on this street, in this neighborhood, etc., i.e., presents a figure-ground structure) which he called the "external horizon." These horizons are a kind of a priori condition for anything to be known, and the world is the all-encompassing horizon of all intentional activity. This horizon of knowing is usually only implicit in our experience, and it forms the basis for our total attitude (sems, kun-gzhi), and all the beliefs, anticipations, and positings that go with it.

The tradition discussed in the first chapter consisted essentially of attempts to objectify these a priori horizons of knowing. Thus, the realistic tradition thought of the world as an order of meaning encompassing man, and existing out there in complete independence of his activities and interpretations. The concept of Worldhood thus was reduced to the assertion that there is only one real, objective world in which everything takes place, further qualified as the physical or spatio-temporal universe. But to say so is to imply the possibility of standing outside this reality (like asking what is the shape of the universe and what is outside that boundary), which is precisely the criticism phenomenology has levelled against the "God-like survey" that traditional cosmologies have tried to make. "World" can only indicate a strictly limited totality; "Worldhood" is the basis for many "worlds", of perception, imagination, physics, etc.:

> "the term 'reality' clearly denotes an unrestricted existential totality including by necessity and even if only momentarily, any assertion in which reference to reality is made; whereas any 'world' is precisely an object of assertion in distinction from the assertion itself in which its existence is denoted.... The allusion to 'worldhood' is precisely the means available for making meaningful reference to totalities; but it achieves this purpose only through the prior insight that no such totality can be thought to exhaust the whole reality." (1)

The world of imagination, for instance, is just as much an horizon of intentionally-constituted objectivity as the empirical world. Both are equally objects of experience; worlds are always experienced worlds.

But when the empirical world is thought of as the total reality, meaning also is reduced to a kind of objective fact, and the process of understanding is interpreted as a passive assimilation. Rather, the objects of various worlds are characterizations of the experience that constitutes that world, and even the relative permanence and publicity of objects in the empirical world, in relation to the world of imagination, for example, does not thereby make them objects independent from experience or more "real" than the objects of imagination, but they rather reflect the structuring of experience of that world. Traditional idealist positions, however, do not escape from the problem outlined here, for they merely reacted against the obvious omissions, in the realistic scheme, of man's active role in the generation of meaning, and thereby posited the mind as the creator of the world-horizon. Now, the human being is the living center of his world, from which its intentional meanings emanate. But neither can the things in the world be fitted into a transcendental consciousness and its states. Klong-chen rab-'byams-pa, as we shall see, also rejects such mentalistic tendencies within Buddhism, in favor of what we shall call a "Transactional" approach, in which the over-arching structure of the world and its meanings is <u>neither subjective nor objective</u>. (2)

This neither subjective nor objective approach to the problem of world and meaning was what Heidegger attempted to reveal

in his famous conception of Dasein (human be-ing) as Being-in-the-World. "Worldhood" was taken by him, in Being and Time, as the totality of "instrumental" "in-order-to's" or "for-the-sake-of-which's", that make up the Ready-to-hand, which is more primordial in experience than the world as the totality of the Present-on-hand. Heidegger overcame Husserl's idealistic tendencies by understanding Dasein not as a subject-consciousness, but as a "to-be-in-the-world," a way or "how" of being that antedates the reflective experience of subject and object. Heidegger states in a work published just after Being and Time:

> "As a totality, world 'is' no particular being but rather that by means of and in terms of which Dasein gives itself to understand what beings it can behave towards and how it can behave towards them... in approaching being through the world, Dasein makes a self of itself." (3)

"Experiencer-experiencing-figure-and-background" is the single dynamic structuring process called by Heidegger "Being-in-the-World," a structure which tends to fall apart into the subject-object dichotomy.

Husserl had already made a distinction between intentionality as an act (akt-Intentionalität), and intentionality as the essence of consciousness, an "anonymously"-functioning intentionality (fungierende-Intentionalität) (4), but he did not fully develop this idea. Heidegger saw that the Being of man, his existence, is always a functioning, a Being-towards-or-with (mitsein), a Being-open-to. And the "how" of man's openness is characterized by "world", hence the hyphenated expression "Being-in-the-World," to indicate that man's Being and World are co-existent. One cannot be derived from

the other. My ex-istence, which is always a "standing outside of myself," is so, "for the sake of" the world. To be is to-be-in-the-world as one's horizon of meaning, which is an implicit structure of relations, rather than a collection of substances. The same "instrumental" concern shown by Heidegger in his analysis of Dasein, appears as "operationalism" in the sciences, as in the case of the special theory of relativity, where Einstein demanded to know the concrete operations by which such relations as length and simultaneity are actually known, rather than merely postulated.

In the light of his ideas Heidegger then tried to go back to "before the beginning" of Greek thought, to re-interpret the idea of Kosmos in order to point the way to understanding how the world as being-this-or-that (a limited totality) is also the way or how of Being-as-such. It is very interesting to note that the Greek word kosmos comes from the verb kosmeo, to arrange, to order, especially in the aesthetic sense of "ordered in a beautiful manner." Hence kosmos denotes an adornment or ornament. Now this is the meaning of the world in the cosmology of Hwa-Yen (literally, "flower-adornment") Buddhism, which Klong-chen-pa follows in his exposition of the Buddha-fields (zhing-khams) in the second chapter of his Yid-bzhin mdzod, i.e., the world as "the Ground of Being adorned by flowers." (gzhi me-tog-gis brgyan-pa) (5). Heidegger sums up his understanding as follows:

> "Kosmos does not mean any particular being that might come to our attention, nor the sum of all beings; instead, it means something like 'condition' or 'state of affairs,'

> i.e., the How in which Being is in its totality.... Thus, 'world' means Being in its totality as the definitive How in accordance with which Dasein positions and holds itself with respect to Being." (6)

We are now in a position to understand why Klong-chen-pa begins his discussion of cosmology in the Yid-bzhin mdzod with a chapter entitled, "The Explanation of How the Samsara is Fabricated from the Ground of Being." (7) We must start with the "how" of Being in order to understand Worldhood as the horizon-structure of meaning of particular worlds, summed up by the Buddhists under the headings of Saṃsāra and Nirvāṇa. Without the concept of Worldhood what is meant by samsara and nirvana cannot be understood. Pearson concludes his discussion on Worldhood as follows:

> "deliberation over the general notion of Worldhood has its main outcome in the thesis, not that there is or is not a world, but that there assuredly is a World of worlds. And this is the same as to say that a reality manifest as Conscious Experience directs itself through a variety of channels; and that the character of each diversion, when interpreted as a content, constitutes whatever worlds can be known or named. To be concerned with Worldhood is no more and no less than to be concerned with the analysis of the varieties of experience." (8)

This may be said to pinpoint the subject-matter of Buddhist Cosmology, with the proviso that we do not equate this position with some form of mentalism. Samsara and nirvana are the two basic "channels" of experience, and indicate that the basis for any world is an overarching structure of meaning. The full ontological background can be best appreciated according to the diagram of the rNying-ma-pa presentation of the structure of Being, to which we shall return again and again. (See chart #1, page 33 (9)) Samsara and nirvana

chos-sku Founding Stratum of Meaningfulness	ngo-bo Facticity (gzhi)	stong-pa Openness	ngo-bo ka-dag-gi ye-shes Pristine Cognitiveness of Pure Facticity
longs-sku Founding Stratum of Existence-in-a World-Horizon	rang-bzhin Actuality (gzhi-snang)	gsal-ba Luminous (Presence)	rang-bzhin lhun-grub kyi ye-shes Pristine Cognitiveness of the Spontaneous Presence of Actuality
sprul-sku Founding Stratum of Concretely-Delivered Meanings	thugs-rje Cognitive Responsiveness	rig-pa Intrinsic Perceptivity	thugs-rje gzhan-snang kun-khyab-gi ye-shes Pristine Cognitiveness of the All-Encompassing Responsiveness to the Presence

Chart #1
rNying-ma-pa Metaphysics

are perspectives on Being that we take up in response (thugs-rje) to its presence as a solicitation (rang-bzhin). Sku (Meaningful Existence) and ye-shes (Pristine Cognitiveness) indicate the primordial inseparability of man's Being and his sensitivity to meanings in his experience. This response can take things as they are or can glide off into taking things for what they are not (snang-ba, nirvāṇa, and srid-pa, ṣaṃsāra, are commonly juxta posed terms for this). Thus, they set up horizons of meaning which then determine the context of how we are going to see things, and what value they have for us. Klong-chen-pa begins (10):

"Now we shall explain the subject matter which makes up the body of the text: the explanation of that which is to be given up - samsara, and that which is to be taken up - nirvana. The presentation of these two is the important part (of the treatise). First we shall explain the Ground of going astray, from which the samsara, characterized by mistakenness and lack of intrinsic perceptivity, (has come):

From the motive force for well-being (bde-bar gshegs-pa'i snying-po) which is primordial sheer lucency,
The unconditioned, pivotal pervasive stratum (of the world-horizon), (11)
From the very beginning pure like the sun in the sky,

When the experientially-initiated potentialities for experience (bag-chags) which come in the wake of a loss of intrinsic perceptivity, stir, sentient beings go astray (from the

Ground of their Being). The Ground of Being, in regard to its being the foundation for the site of samsara, is, like the sky, from the very beginning an open dimension without an essence. It is luminous like the sun and moon, and spontaneous (in its luminosity). Since beginningless time it remains what it is and does not change into something else. Since it is the reach and range which is beyond the limitations set by propositions, it is sheer lucency; and since it remains in the totality-field (dbyings) in which Meaningful Existence and Pristine Cognitiveness (12) cannot be added to or subtracted from one another, it is the motive force for well-being. Since it is the existential presence of the foundation of samsara and nirvana, it is called the Pivotal Pervasive Stratum (of the world-horizon). Finally it is unconditioned and has remained absolutely pure from the very beginning.

Furthermore, conflicting emotions and unstable actions (that go with them) are founded (on this pervasive stratum), although they actually have no foundation, just like a mass of clouds (seems to) rest on the sun and sky. However, the Ground of Being remains in its own reach and range - these (conflicting emotions and unstable actions) do not touch or join it. Since they are without any actuality, they appear as founded, although the founding and the founded cannot be established; they are mere ascriptions. As the Uttaratantra

says:

> "Earth-solidity rests on Water-Cohesion, Water on Wind-Motility, and Wind on Space-Spatiality. Space doesn't rest on any of the elementary constituents of Earth, Water, or Wind. In the same way, the psychophysical constituents, the elements of our experiential make-up, and the sense-fields are founded on conflicting emotions and unstable actions; conflicting emotions and unstable actions rest on the improper use of the mind; the improper use of the mind rests on mind in its purity; and mind in its purity doesn't rest on anything." (13)

Nirvana is also founded (on this Pervasive Stratum), but it is inseparable from it, like the sun and its rays, since from the very beginning it can't be added to or subtracted from it. Since we shall explain these things in detail below, we won't say any more here. From the reach and range of this Ground of Being,

By the rising of the latent tendencies for going astray into (the duality) of apprehending acts and apprehendable projects,

The clouds of incidental obscurations, the proliferating postulations coming in the wake of a loss of intrinsic perceptivity (kun-brtags ma-rig-pa),

(Become) the potentialities for the experience of (intended) objects (yul), (intending) consciousness (don), and one's body (lus).

Thus, the motive force of sheer lucency, intrinsic perceptivity, has been obscured.

From the reach and range of the primordial existential presence

of Being, which is naturally lucent, beginningless (14) loss of intrinsic perceptivity arises as observable qualities which are able to shine in their own light. This rising of the latent tendencies of (the split into) the apprehending and the apprehendable, which have now become a sustaining factor, is an incidental obscuration. The three potentialities for experience which make up (the intentive structure) of mind, become sedimented on the Pervasive Stratum. They are: objects, such as color-form, etc.; consciousness, the perceptive functions (rnam-shes) which apprehend these objects; and one's body. Since these potentialities for experience which appear although there has never been anything (to appear) (med-bzhin snang-ba), have obscured, like dust which settles on a mirror, the motive force of sheer lucency, pristine cognitiveness informed by intrinsic perceptivity, and the primordial Ground of Being, one wanders about in this samsara. As the gSang-ba'i snying-po states:

> "Listen! From the motive force for well-being, conceptual fictions and unstable actions miraculously appear."

As an analogy for obscuration:

Just like the continuum of the sky has been obscured by clouds,

Buddha qualities are not manifest and the mistaken mode of appearing (15), (consisting of) happiness and frus-

tration, makes itself felt.

Although pristine cognitiveness which is like the sun, remains from the very beginning spontaneously co-existent with the reach and range of the totality-field of primordial sheer lucency which is like the sky, from this reach and range incidental obscurations, like clouds, (appear). On account of their obscuring activity at the time of the status of an ordinary being, the limitless qualities which exist in the manifest aspect of Meaningful Existence (rupakāya), as well as Meaningful Existence in its Absoluteness (dharmakāya) which is the inseparability of pristine cognitiveness and its continuum of experience, do not make themselves felt. This is because of the presence of the mass of clouds of potentialities for experience of a variety of happiness and frustrations (making up) the mistaken mode of appearing. The actuality of mind is sheer lucency, therefore all obscurations are incidental and can be cleared up. As the Pramāṇavarttikā says:

> "The actuality of mind is sheer lucency, obscurations are incidental."

If one asks how (the obscurations) are similar to clouds:

Just like the crop grows when rain falls from the clouds,
By the stirring of the cloud of intentive mind (16) with
its projects and acts of projection characterized by a
loss of intrinsic perceptivity,
The rain of actions (leading to) happiness and frustration

falls.

The fruit produced by this is the 3 realms of samsara. Just like rain-clouds trembling in the sky and rain falling become the basis for the growing of the crop, from the reach and range of Mind-as-Such which is naturally pure, involvement in the proliferating conceptual fictions of one's projects and acts of projection, is stirred up. From accumulating many kinds of actions, either positive or negative, which are the motivating force in the samsara, the 6 life-forms of the 3 realms appear with their corresponding modes of behavior. Since the harvest of the variety of happiness and frustration grows, the samsara is just like a circle of fire (i.e., like a torch waved in a circular motion). As it says in the Ratnamālā:

> "The circle of samsara has sustaining causes following one after another like a circle of fire. This is asserted to be 'running around in circles'." " (17)

Here we must distinguish between the Ground of Being (gzhi) and the Pervasive Stratum (kun-gzhi). The Ground is "always there," no matter how far back we may penetrate towards the "beginning" of things. All polarities are potentials of what cannot be concretized in any way (stong-pa); but it is nevertheless the potential (gshis) for all fluctuations (18). It is, however, not something other than appearance (gsal-ba); as intrinsic perceptivity (rig-pa) it is an inseparable response to and within appearance. It is this intrinsic perceptivity which is the basis for man's "Affinity

with Being" (rigs), present as the motive force for well-being. Yet the Ground is not dependent on appearance, nor is it the sum total of appearances. Now, the going astray ('khrul-pa) into the duality of projects and acts of projection (gzung-'dzin) which we call "mind", is the result of not understanding that everything "proceeds" from the Ground, not as an emanation of some sort, but as its active presentifying or functioning. As an on-going act or possibility, this understanding (nirvana) or lack of understanding (samsara) is refered to as the Pervasive Stratum (kun-gzhi). When there is a lack of understanding, one takes the samsara-nirvana, subject-object polarities as entitative (independently-existing) opposites, and then one goes about converting the pure fact of the Ground into a particular postulated Ground, such as God, matter, etc.

Klong-chen-pa states in elucidating the first three members of the principle of Functional Correlation (rten-'brel):

> "Because one does not understand self-presentational immediacy, when facticity, actuality, and cognitive responsiveness which (come) out of the primordial Ground of Being, appear tending in the direction of objectness, (there is) loss of intrinsic perceptivity (ma-rig-pa).
> From this, since one makes an object-like apprehension by virtue of the proliferating postulations that come in the wake of a loss of intrinsic perceptivity, (there is) motivatedness in the samsara ('du-byed)
> From this, because intrinsic perceptivity is contaminated by the potentialities for experience, it is transformed into the Pervasive Stratum." (19)

The potentialities for experience and the Pervasive Stratum should not be likened to seeds lying in a container, but they are rather

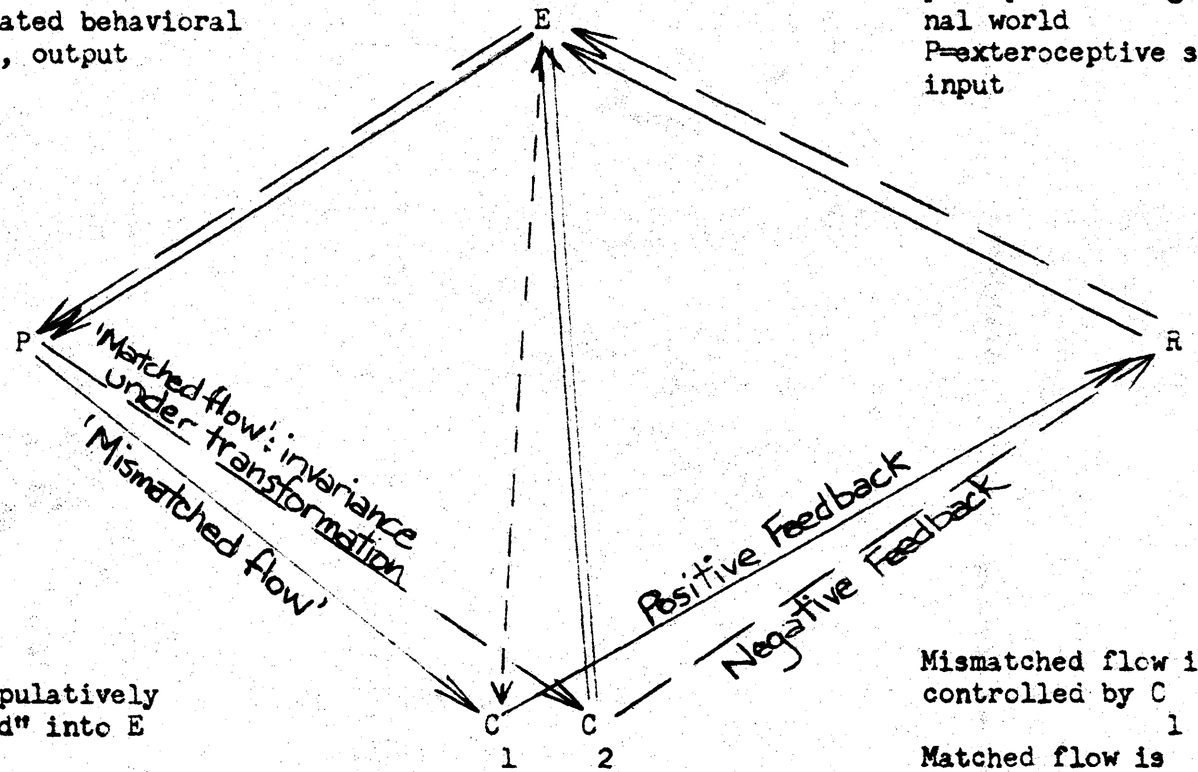
process-product words for the retentional-protentional, abstracting-projecting, trans-actional character of perception and experience, that deals with assigned meanings and values. Intrinsic perceptivity indicates a responsiveness that is free from the instabilities of this type of structure, and which deals with intrinsic meanings and values. Ervin Laszlo has given a clear means for presenting this trans-actional structure of experience, which he calls a "Basic Information-Flow Design for Self-Stabilizing Self-Organizing Systems," (20) which he diagrams as shown in chart #2 on the next page (we shall discuss what is meant by "self-organizing" when that context becomes important below (21)).

The system presented in the diagram is the kun-gzhi, the Pervasive Stratum as the "pre-given" horizon of the world. The input (P) are the sense-modalities (dbang-po). The response (R) is the perceptions (rnam-shes) and other forms of activity which manipulate and search out invariants in the environment. The environment (E) is the mapped and projected Gestalt-appearances of objects (yul) with determinative ("part-whole") Gestalt-qualities. These three, of course, constitute the individual's experiential make-up (khams) as dealt with in the Abhidharma. Now, here in the Cittamātra or Yogācāra system, attention is drawn to the potentialities for experience (bag-chags) as the coding (C). In this sense, P, C, and R all come under the "subjective" side and represent the potentiality of the apprehending, while E, on the "objective" side, represents the potentiality of the apprehendable. So, P, R, and E,

A Basic Information-Flow Design for Self-Stabilizing Self-Organizing Systems

C=Gestalt-systems, control coding between P & R
R=coordinated behavioral responses, output

E=effective environment as perceptible range of external world
P=exteroceptive sensing, input



C====>E
C is manipulatively "projected" into E
E------>C
E is adaptively mapped into C

Mismatched flow is controlled by C_1

Matched flow is controlled by C_2

Chart #2

as well as C, it must be remembered, are also bag-chags, potentialities for experience that are characterized by a loss of intrinsic awareness. They are dependent on each other; the bag-chags of the body, as we shall see below, is that on which (rten) the apprehending mind is founded (brten), as the focal point of world-experience. While we have to speak in terms of seemingly separate individuals (P,C,R,E), they are only attempts to represent aspects of a unified structuring-process. The system is trans-actional, rather than inter-actional (E and C as independent) or self-actional (constituted by the mind). C projects, but E is also mapped into it, much as in Piaget's concepts of assimilation and accomodation; C are not a priori mental structures applied to a passive reception of stimuli in order to produce perception, rather they are themselves experientially-initiated. E are Gestalts as relatively invariant structures abstracted in the transactional process. Rather than the mere "sedimentation" of layers of experience on certain elemental givens of experience, the system presents a reorganization of the structuring of experience so that "invariance under transformation" is maintained. The search for invariants is indicated by the "matched" or "mismatched" flows: if the flow is "matched", there is negative feedback instructing the system that its search is at least momentarily over, that the "object is what I took it to be." A "mismatched" flow induces positive feedback, so that the search for invariance is continued by operations which test out new codes (C_1, C_2, C_3, etc.), "hypothesized" with the aid of further input and guided by their

possible transformations. The phenomenon of appearing expresses the correlation of code and enviroment, such that observable qualities can be seen as the appearance of an object (what is abstracted as relatively invariant). (22)

Bohm states:

> "we do not perceive just what is before our eyes. We perceive it organized and structured through abstractions of what kind of invariant state of affairs (which may include invariant states of movement) will explain immediate experience and a wide range of earlier experiences that led up to it.... With regard to optical perception, for example, Gibson points out that through each region of space passes an infinity of rays of light, going in all directions. These rays of light implicitly contain all the information about the structure of the world that we can obtain from vision. But an eye fixed in a certain position cannot abstract this information. It must move in many ways, and at least part of these movements must be produced by the observer himself, because (as was first brought out by Held and his co-workers) structural information is abstracted mainly from invariant relationships between outgoing nervous excitation that gives rise to these movements and the corresponding ingoing nervous excitations that result from them." (23)

The experiments in question were based on the discovery by Ditchburn that the eye is constantly undergoing very rapid vibrations which shift the image of the object on the cells of the retina, and then "flick" it back again to its original position. When Ditchburn arranged a series of mirrors to cancel this movement, the subject's perceptions broke down completely, "even though a clear image of the world was being focused on his retina." (24) That is, nerve cells will "accomodate" to a constant stimulus, and the strength of their response will gradually fall below the threshold of consciousness, unless the stimulus is varied. Gibson and Held went even further

in showing the active nature of our perceiving by conducting an experiment in which they gave distorting spectacles (which inverted the image) to subjects in a room. Those subjects who were able to move around eventually saw things right side up again (or, at least were able to move around normally) as a means of resolving the contradiction between their visual and tactile sensations, although the image on the retina was still upside down! Those subjects who just sat in the room never saw things right side up.

Such a perceptual system as we have been describing, since it is geared for stability in being "attuned" to discover invariants, poses the danger that the "conceptual map" of these invariants that have been abstracted as a kind of "inner show", tend to be taken for absolute, stable realities. As human beings we are directly sensitive to a human world, of which the physical world is one abstraction, however valid it may be in terms of its own project. We tend to lose sight of the whole active process, and take its products - objects of all kinds, inner and outer - as independent existents. We create fictitious duplicates to what is presented to us (<u>snang-ba</u>), taking this appearance to be the appearance of something existing in-itself. This is technically known as <u>'khrul-snang</u>, mistaken appearance. Neither subject nor object are independent, there is only a correlation of inputs and outputs:

> "For in all of this we have seen that in perception there is present an outgoing nervous impulse producing a movement, in response to which there is a coordinated incoming set of sensations. The ability to abstract an invariant relationship

> in these nervous impulses seems to be at the basis of intelligent perception. For the structure that is present in the "inner show" is determined by the need to account for what is invariant in the relationship of the outgoing movements and the incoming sensations. In this way the percipient is not only always learning about his environment but is also _changing himself_. That is, some reflection of the general structure of the environment is being built into his nervous system." (25)

It is the world experienced as a collection of static entities as the product of this process that is symbolized in the third chapter of the _Yid-bzhin mdzod_, which is essentially the same as the classic presentation of "Buddhist Cosmology" in the third chapter of Vasubandhu's _Abhidharma-kośa_. The most important point to be noted is that this system is characterized by a loss in intrinsic perceptivity, which is sensitive to the unique and intrinsic value of things. It involves a loss of value in that the world is either uncriticly manipulated, or critically subjected to the theoretical gaze of the observer of the mere Present-at-Hand. Fact and value have become split. We cannot escape our _participation_ in the world (the Buddhists do not deny the existence of the operational reality (_kun-rdzob_) as what it is), but we can redirect the system so as to function according to pristine cognitiveness which is sensitive to values and meanings. This kind of cognitiveness unites facts and values, because by seeing more the "factiness" of facts without the distorting screen of our usual perceptual system, we are also more sensitive to the values they embody. The retentional-protentional structure of experience is not thereby destroyed but transformed into the sensitivity to the interrelationsips of all the "vectorial"

components of our experience. A world seen in this light is envisioned by Klong-chen-pa in the second chapter of the Yid-bzhin mdzod as a vast display of Buddha-fields.

Now, to continue Klon-chen-pa's exposition, in which he goes into detail about the functioning of this transactional system:

"Now we shall explain extensively the division into the three potentialities for experience in the samsara,

From the three potentialities for experience which comprise the mistaken mode of appearing,

The potentiality for experience of objects, the world-as-container,

And founded on this, the objects of the 5 senses, color-form, etc., (arise).

Because the beginningless potentialities for experience which have these 3 different characteristics are implanted on the universal ground, appearance also manifests itself in 3 different ways. The potentiality for experience of objects, color-form, sound, odor, flavor, and tangibility, which are summed up by the external world and its inhabitants, appear as if they existed externally although there is no such thing as internal or external. Having appeared before the mind, one becomes completely taken in by them as real objects, one makes them into objects of judgments of either affirmation or negation (as to their reality). (26) This object that one

is involved with is called color-form; considered as external it is the postulate of the apprehendable. The same holds for sound, etc. As for oneself, the internal, appearance as mind:

The potentiality for experience of consciousness appears
as the eight perceptive functions,
And the healthy and destructive actions based on them.

The foundational-horizonal perceptive function (kun-gzhi rnam-shes) has founded itself on the pervasive stratum (of the world-horizon) as the variety of potentialities for experience, and from this spreads the 5 perceptions of seeing, etc., the conceptualizing perceptive function (yid-shes) which follows a cognition of the object of a sensory capacity, and the emotively-toned ego-act (nyon-yid): these 8 functions are called the apprehending mind. The concept corresponding to these is the concept of the apprehending. If one asks why it is "apprehending," the answer is as follows: on the level of the potentialities for experience implanted on the pervasive stratum, since as such it is a loss of intrinsic perceptivity and in its functioning it remains without conceptualizations connected with any apparent object, it is the apprehending as the potentiality for experience of the realm of formlessness (gzugs-med khams). Based on this is a cognition which is only partially clear and lucent, and which is not connected with an object; this is the

foundational-horizonal perceptive function, which is the apprehending as the potentiality for experience of the realm of form (gzugs-khams). The 5 sense perceptions which have spread from this and which are without conceptualizations, are the apprehending as the potentiality for the experience of wholeness (ting-ne-'dzin) on the level of form. The conceptualizing perceptive function and the emotively-toned ego-act are the apprehending as the potentiality for the experience of the realm of sensuousness ('dod-khams). These 8 perceptive functions, since they apprehend, both with and without conceptualization, their respective objects, are known as the apprehending mind. (27) What is founded on this and risen as a whole by virtue of this, unhealthy actions and what is connected with merits accruing to healthy actions, become sedimented "in" the mind, since they remain like rust on gold. Pacification of this involvement in mind and mental events is the intent of the Middle Way. These perceptive functions are founded on:

The potentiality for the experience of the body appears
as the individual forms of the 6 kinds of beings,
And the major and minor characteristics based on them.

Because of appearance as the various bodies of gods and men, etc., one becomes taken in by (the idea) "My body." Even in

a dream when one sees water or fire or an abyss or an enemy or dogs, etc., one sees them as a danger to one's own body and runs away, and thus the experience of frustration makes itself felt. Furthermore, to the assemblage made up of the many major and minor divisions (of the body) is ascribed the word "body", and even the corpse is called a body. Even though the gods leave no corpse, that which is free from this (perishable form) is called their body." (28)

Now we approach a crucial part of Klong-chen-pa's treatise, in which he rejects reducing the problem of appearing to any one of the bag-chags alone, i.e., rejects both realistic and idealistic reductions of experience:

"Why is there appearance as body, consciousness, and objects? If one thinks that either everything appearing as object is a sufficient explanation, or that appearance as only body and consciousness is sufficient, this is not so. (One must) take into account each mode of appearing:

Thus the 3 potentialities for experience which have been implanted on the pervasive stratum since beginningless time,

By habituation manifest themselves throughout one's span of life.

By the power of the 3 potentialities for experience which rest on the pervasive stratum, arise the 3 modes of appearing as presences, just as from various seeds various shoots arise.

No matter where one is born, as long as the potentialities for experience are not exhausted, appearance will make itself felt like a body, mind, and objects in a dream. The variety of former potentialities, since they have existed since beginningless time, have produced former spans of life, and by continuous habituation (29) this life is produced. Activity during the day forms dreams (at night), and from the continuity of the potentialities for experience in this life, arises the body, consciousness, and objects of the next. As the _Mahāyāna-Sūtrālaṅkāra_ describes this process:

> "The 3 types of potentialities for experience have 3 modes of appearing."

And the Lord Mañjuśrī has taught:

> "Since the 3 types of potentialities have been implanted on the pervasive stratum, appearance has 3 different modes of presentation."

Now, the refutation of the errors of those proud people who have for a long time been separated from the excellent path (of the Mahāyāna) and are far from the sight of the Buddha:

Ignorant people say that everything is mental;
About the meaning of the 3 modes of appearance they are very confused.
One must protect oneself and eliminate these incorrect ways of speaking
That contain many errors, commit various contradictions, and lead to extreme conclusions.

Those people who do not understand the Mahāyāna say that appearance and projective existence (30), samsara and nirvana, the inner and the outer, beings and their world, everything is one's mind; and speaking out of evident pride they deceive many people. They do not understand the meaning in the Mahāyāna of the 3 modes of appearing. Although the potentialities for experience sedimented as intentive mind may be mental, how can that which is sedimented as body and objects be mental? So, as to their many errors: like the body and its appearance which exist as seen by the eye, and can be found as tangible form, will the mind also become like this? Or will the body and objects which are mind-like be unable to be seen and heard? Or will the mind have color and shape, and also seeing and hearing? And if one person becomes a Buddha or goes to the lower realms, then will all become like this? And if the many apparent objects become one (in mind), then will the cognitive capacities (of people) also become one? When an an appearance disappears, then will the mind also disappear? And since the evolutive phases of Earth, Fire, Water, and Wind have mental abilities, hasn't one joined the ranks of the heretical Mīmāṃsakas?

As to their various contradictions: just as a cognition has its own object, they are led to the conclusion that even an inert object has its own cognition. Then one's mind becomes something external on account of appearance being external, and appearance

becomes something internal because the cognitive and illuminative capacity of mind is internal. But then the apparent object which exists externally and one's cognitiveness which exists internally won't be able to appear as different, because they are non-dual, both being aspects of one fact.

As to their extreme conclusions: at the time one is not born, they are led to the conclusion that one's mind exists, since there is appearance at this time; but then at the time of one's death appearance would cease to exist here. When an object that is before one goes somewhere else, they are led to the conclusion that, since appearance is one's own mind, it comes and goes following one's own mind. But at the time it goes somewhere else, they are also led to assert that one's mind is left here, in order for appearance to (continue to) be here. On account of these and many other errors, one must protect oneself and get rid of these incorrect ways of speaking of stupid people who, like a cowherd, have never heard anything (of the Mahāyāna). "What appears is itself appearance," "O Buddha-sons, the 3 realms are mind-only," "Because of the potentialities for experience, the mind which is stirred up gives rise to appearance as (external) objects,": because of these and other statements, one asks whether appearance is mind or not. One must understand that the statement, "Appearance is mind," which is made in the light of the distinction

between appearance (snang-ba) and apparent object (snang-yul), is made because apprehending (something) as present or not is (the activity) of one's mind. Although the statement, "Appearance is mind," is intended to refute the Śrāvakas and others who hold things to exist in truth, and to destroy the erroneous belief in an independently-existing external world, mountains, etc., are not thereby shown to be mental. One should recognize as mental appearance in which one becomes caught up in the notion of an independently-existing object, where one thinks, "Oh, this is a mountain," etc. Therefore, apparent objects such as mountains and so forth, are not mental, because one finds that their cause, effects, functioning, origin, and cessation are different from that of the mind.

If one asks, then, do they (apparent objects) exist as independent external objects, the answer is no. Indepedently-existing objects, although they are apprehended as something other, made of atoms, etc., appearing as tangible and external, the potentialities for experience which appear before the mind are delusive, like what appears under the influence of datura, and cannot be found anywhere or as anything whatsoever, internal or external; and since we maintain that they are appearances although there has never been anything (to appear), without a root or ground, they are said to be 'Without any actuality.' (rang-bzhin-med) Therefore, it is very important to distinquish

between appearance and apparent object." (31)

Initially, considerations of this system of the bag-chags seem to lead to some form of mentalism. Indeed, this is almost a necessary step in one's philosophico-spiritual development. At some point one has to at least get a glimpse of the primacy of the subjective, that it is our actions (including the "flicking" of our eyeballs) which determine the world in which we live, that it is we who also make the projection of a world-in-itself as the cause of our perceptions. Although we are not neutral observers, we must not, however, confuse determination with creation:

> "Determination does not mean creation. It means... that a strict correspondence exists between certain fundamental forms of subject and their worlds." (32)

If appearance is not the appearance of an (unknowable) thing-in-itself, neither is it the creation of the mind. This makes the Buddhists here into a very strange kind of realist. They say: we are directly sensitive to the structure of the environment itself, but this environment has never been cognitively separate from us, so how can we be in (external) contact with it? Perception (vi-jnana) is the constant separation of what is not separate, in which we make selections on the basis of our projects, and then make further divisions and constructs. There is presence (snang-ba), but it is not the presence of something (med-bzhin snang-ba):

> "rather it is the slanted views through which an identical thing makes its appearances,... That which makes its appearance in these slanted views is sems-nyid (Mind-as-such), which is not a mind (sems), since mind is itself a slanted

> view.... More precisely, it is the Ground ('being' itself, gzhi) that appears (gzhi-snang)." (33)

The term sems-nyid is an index for the Totality-field of our experience, "which includes all objects but which is nowhere and cannot be pointed to, a Totality-field which is with us all the time but which is outside of time because it includes all time and has no birth or death and no self-world dichotomy." (34) Epistemologically speaking, one has the paradox: there is appearing, yet there is nothing (stong-pa) which it is the appearance of. This is because epistemology is concerned with the relationship between these presences and our "abstracted" concepts, which have been concretized into fictitious duplicates existing beyond or behind these presences. But as we have seen, there are only correlations. This is the vision of the Mādhyamikas; there is no independent existence (stong-pa) but rather appearing (snang-ba) in functional correlation (rten-'brel):

> "Since there are no ultimate particles, the ten correlates of our experiential make-up (khams) which have color-form, do not exist in truth, and therefore, the 5 sensory capacities (dbang-po) which are the dominant condition in a perceptual situation (bdag-pa'i rkyen) and the 5 objects which make up the objective condition (dmigs-pa'i rkyen), as well as the 5 perceptive functions of sight, etc., which arise, cannot be found to exist in truth. If they cannot be established, the conceptualizing function (yid-shes) which is established by the similar-immediate condition (de ma-thag-pa'i rkyen), also cannot be found to exist in truth. Therefore, if the 6 perceptive functions can't be established, the mental activity which comes with no break with the passing of these, also doesn't exist in truth. When the mind does not exist in truth, the mental events, such as the notion of a single substance, feelings, and volitions which go with it, etc., also can be easily known not to have any actuality.... In brief, having made the proper analysis, because of the crucial point that the mutuality of the knower and the known has come about in

functional correlation, since ultimate particles cannot be found, the inanimate cannot be established, and because of this we know that mind also cannot be established, ultimately we are able to destroy the obsession for veridicality regarding all the entities of reality." (35)

Once again, Platt expresses these ideas beautifully in modern terms:

> "In the subjective totality-field there is no object or class of objects or of actions that can be pointed to or isolated as 'self' or 'ego' or 'I'. In any observation or operation, there is no sharp distinction between the manipulating and the manipulated... Without manipulation, there are no objects to manipulate: without objects to manipulate, there is no reference point and no manipulation.... So, operationally, there are objects; but 'I' am the operating." (36)

The "obsession for things existing in truth" comes with the split in our experience into an isolated knower and known; and subjectively we are further split into an "awareness" and a "self" who owns and "watches" all such states, while objectively there is the split into "presences" and the objects they are said to be the "presences" of. These considerations seem to take to their logical conclusion what is implied in the epistemology of quantum mechanics, such that we might formulate a Mādhyamika Indeterminism Principle: to know is to perform an operation, such as perceiving. This is not an operation on a reality independent of us, but a differentiating of our experiential field in the light of a partial viewpoint which enables us to abstract information. What then is the "object" of quantum mechanics and other 20th century scientific theories which have gone beyond classical ideas? Their "objects" are meanings as presented in experience, which they determine in their approach to experience.

So, some physicists have turned to an examination of the role of consciousness in quantum theory. But it must be remembered that consciousness is no more an independent existent than the observable (or shall we say the manipulated). Kockelmans sums up:

> "Man and world, more generally, subject and object, are merely two abstract aspects of a single structure, viz. presence. Man and world constitute a unity through mutual implication. In the original presence there are 2 poles, but these poles necessarily imply each other, they necessarily have a dialectic relationship. Any attempt to disengage one of these poles is an abstraction, but on the other hand, any identification of the 2 disregards the proper function of these 2 elements of a single structure.... It is in man's living of the fundamental intentionality that meaning originates. Meaning is the result of the encounter between man and world, an encounter in which both are essentially involved." (37)

In such a view as we have been discussing lies the basis for a non-reductionist approach to the world, which is seen in a new light once the exiled experiencer and his intentional meanings have been returned to the world.

The rest of the first chapter of the Yid-bzhin mdzod is a denouement, in which Klong-chen-pa draws out the implications of this transactional system of "appearances in functional correlation," beginning with how the split develops out of the triadic structure of the potentialities of experience:

> "Now we shall explain the activity which produces the duality of the apprehending and the apprehendable from the 3 modes of appearing:
>
> Thus, the fiction of the apprehendable arises from the object potentiality,

And the fiction of the apprehending from the consciousness potentiality.

The basis and peg of emotionality comes from the body potentiality.

Because ignorant people take (these) as veridical, they continually go round in samsara.

Because one has apprehended as present, appearance in the object mode, the fiction of the apprehendable arises; if the 8 perceptive functions remain focused internally and then come outward (to meet their respective objects), the fiction of the apprehending, called mind, arises; and the body is the basis of the arising of the apprehendable and the apprehending, and provides the locus for the manifest evils due to pleasures and frustrations. By taking the 3 modes of appearing as veridical one wanders continuously in projective existences, and this is frustration. As the Ārya-rāṣṭrapāla-paripṛcchā-nāma-sūtra states:

> "All the entities of reality have no actuality at all, like an illusion, a mirage, and the moon reflected in water. Because ignorant people take (these entities) as veridical, they become bound, they go round continuously like a potter's wheel."

Now, although the samsara has nothing to it, like a reflection, as long as the fictions of the apprehending and the apprehendable have not been completely exhausted, instruction in action and its results is very important:

Although all these (entities) have no reality,

By the power of the (duality of) the apprehendable and the apprehending there is appearing in functional correlation, like an apparition.

As long as the (duality of) the apprehendable and the apprehending has not been completely exhausted,

There will miraculously appear the cause and result of action.

Although from the point of view of the primary reality of prereflective, non-thematic experience (chos-nyid don-dam-pa'i bden-pa), there is no running around in circles and the unstable actions produced by it, operationally, having been founded on arising in functional correlation according to its corresponding causes and conditions, samsara makes itself felt like an apparition; because of this it is necessary to deal with its causes and results. If one has completely exhausted all the pervasive fictions of the apprehendable and the apprehending, there is no action since there is no loss of intrinsic perceptivity together with the potentialities for experience which make up the cause of the samsara. There will be action as long as one has not directly experienced this. Since loss of intrinsic perceptivity and all the conflicting emotions produced by this are not destroyed, it is important to take up (a stance of) acceptance and rejection in regard to the motivating cause of action and its results. The action produced by the mistaken mode of appearing which is samsara is like a poisonous snake, since it always makes for frustration.

If one asks who produces and accumulates this action:

The mind is all-creative of motivations and actions.

When investigating appearance before the mind with the mind,

Exert oneself in order to discipline the errant mind.

Action as cause is the origin (of frustration); the result, which is unstable actions and conflicting emotions, can only be frustration. The root of these has been produced (as follows): on account of having come from motivations based on the (intentive structure of) mind, the mind accumulates good, bad, and neutral actions, and by the power of various actions there appears the variety of the mistaken mode of appearing, which is present before one's mind like what is observed in a dream. Because the mind investigates within the (confines of) the apprehendable and the apprehending, error arises continually. As the Ratnacūḍa states:

> "From mind arises motivations; from motivations come (further) healthy, unhealthy, and neutral motivations. From motivatedness the happiness, frustration, and all that lies in between, of sentient beings makes itself felt."

On account of this it makes sense to exert oneself in refining and disciplining one's mind. For an analogy to the arising of the mistaken mode of appearing:

As long as one is intoxicated by datura,

Although a variety of appearances arise which seem to be like men,

All of them are deceptive forms, there isn't anything there.

Those who have taken a decoction of datura, although they see all the earth and sky full of men and women, at the time of seeing them, they are non-existent. Appearance, due to this substance, and by the power of the mistaken mind, arises as the variety of the external world; this is only the mistaken mode of appearing. To set forth an analogy for appearing although there has never been anything (to appear):

All the 6 life-forms that make up the mistaken mode of appearing, without exception,

Which have been produced by the erring mind and its involvements (sbyor-ba):

Know them to be an empty reflection, there yet nothing.

All the entities of reality, summed up by appearance and projective existence, beings and their world, i.e., objects which appear externally as other, which may be even broken up into a hundred fine particles, and the apprehending mind which is internal, the self (apart from this there is no other entity whatsoever to be found), are incidental (contingent), since they are appearances although there has never been anything to appear. For example, when a person is drunk on beer, although the world appears to turn round and round, there really is no turning. From the Samādhirājasūtra:

"When people are drunk on beer, although the earth seems to move, there is actually no moving or shaking. Know that all the entities of reality (are present) in this way."

Now, in summary, the exhortation to know what is the primordial Ground of going astray into appearance although there has never been anything to appear:

Actually, the samsara is like a reflection,

Investigate from what it arises originally.

By this one knows nirvana

And it will become the sustaining factor of the motive force for well-being which is free from projective existence.

By properly investigating the motive force of primordial sheer lucency, the totality-field from which samsara, which is without actuality like a reflection in a mirror, arises, one knows what samsara is; (and when one knows this), by entering into a non-dual pristine cognitiveness, one is free from the partiality of the mistaken mode of appearing which makes up projective existence. So that this will become limpid clearness and consummate perspicacity in its immediacy (mngon-par byang-chub), investigate the primordial actuality (from which samsara arises). From the Samādhirāja-sūtra:

'Once the world arises, then it is destroyed; it has no abiding essense. What is before and after it remains the same. Investigate that from which the world originally arose.' " (38)

Cosmology must begin its considerations with the Ground from which worlds arise, that is, Being-as-such. It is significant

that even the objectivistic approach of contemporary relativistic cosmology has come up against this idea of the Ground as a kind of limit situation in its explorations. The theoretical conception of a space-time "singularity" arising out of gravitational collapse of a massive star, plus the incresing evidence for the existence of these "black holes," has led to a model of the Big Bang theory as an expansion from such a state of gravitational collapse. In extrapolating back to increasing fractions of a second after the Big Bang, physicists do not use the usual measure of time, but rather its logarithm to the base of ten, which is increasingly negative for fractions of a second. This parameter is called "time", and it moves back to a "time" of minus infinity (we are now at "time" plus seventeen). John Taylor, an English mathematician, states:

> "As 'time' is rolled ever further back the universe may present an ever-similar aspect. There would always be activity as heavier and heavier hadrons (strongly interacting particles) became responsible for the structure of the universe. In such a picture one might be able to say: in the beginning there was no beginning.... As the clock was rolled ever back, closer and closer to the point of time we initially regarded as the first point of existence, there appeared to be ever-greater activity.... The problem of the creation of the world is seen to be incorrectly posed. We are in a phase of the development of the universe in which time, the measure of activity which we most immediately experienced, is quite suitable. But we cannot use this same measure to extrapolate back to the very earliest stages; the more correct 'time' has to replace it. And 'time', a measure of the activity in the cosmos, had no beginning: it was 'always there'." (39)

The Ground of Being is an on-going process which is not "in" time. It cannot be identified according to substantival thinking as persisting throughout the 3 aspects of time. Yet it is not a mere

nothing, since it is the beginningless activity of the cosmos itself, presenting itself as spontaneous quantum fluctuations.

This first chapter of Klong-chen-pa's work, on how the "world" of samsara arises from the Ground, is closely related, in a structural understanding of the work, to the 18th chapter on the "Experience of Being," (gnas-lugs). We have seen that the samsara is characterised by a perceptual system in which appearances are present in a purely operational sense (kun-rdzob). What is its relation to the primary, ultimate reality (don-dam) of openness (stong-pa-nyid)? What are the ontological statuses and cosmological significances of these two realities (bden-pa gnyis)? Klong-chen-pa first gives the conventional view of the two realities:

> "If we make a distinction according to the nominal two realities,
> Then since all the samsara, which is a mistaken appearing,
> Is non-veridical and deceptive, it is the operational-conventional reality,
> While nirvana, which is sheer lucency, peaceful and profound,
> Is taken as the ultimate reality which is unchanging.
>
> Since all the observable qualities of the mind within, and the variety of appearances of objects such as color-form, etc., which are the appearing of the potentialities of experience, the eight perceptual functions, and the world-horizon of the variety of the potentialities of experience, which obscure

the sheer lucency which is the quintessence of meaningfulness, that constitute the samsara, are deceptive and without anything to them, they are taken as the operational reality; while the Ground of Being in its spontaneity as sheer lucency, is taken as the primary reality. For example, like the sun and clouds, the primary reality, sheer lucency, is the obscured object, and the operational reality, the psychophyscial constituents, the sense-fields, and the experiential make-up which constitute the samsara, are the obscuring (object)." (40)

Klong-chen-pa then goes on to explain what is meant by the "Indivisbility of the Two Realities" (<u>bden-gnyis dbyer-med</u>):

"Since one is beyond the postulated two realities,
By going beyond objects which are divided up and distinguished according to operational reality,
All discursiveness ceases.
Because of the non-duality of appearance and openness in the totality-field,
There is neither the establishment nor the non-establishment of the indivisibility of the (postulated) two realities.

This is known as the "Indivisibility of the Two Realities." Within the pristine cognitiveness which is sheer lucency, since the appearing of operational reality is like a cloud which does not touch the sky, one cannot even find any mistaken appearing.

If one cannot find this, one cannot establish a primary reality which is evaluated as an open dimension to the extent that there is appearance. Because these two cannot be established, one cannot find any distinction of the two realities according to the philosophical systems. Since these two do not exist, one is beyond the two realities which are ascriptions of truth or falsehood by the intellect. This quieting of all discursiveness is called the "Indivisibility of the Two Realities," because one cannot establish the postulated two realities. Since it is ineffable in that conventionally the two realities can be established, but ultimately they cannot, the totality-field of pristine cognitiveness which is sheer lucency, is called "The Great Spontaneous Purity." And since there is nothing like the openness and appearing of the two realities which are well-known in the philosophical systems, it is called the "Indivisiblity of the Two Realities." In the sgyu-'phrul bla-ma, it states:

> "The primary and operational realities are indivisible
> in the great mandala of Equality."

If, to the extent that they appear, the postulated two realities are indivisible, what more is there to say about the primary pristine cognitiveness? Since we directly experience its shining, the sun is not obscured by dividing it into atoms, nor is it (made to) shine by not dividing it. Since the sun,

in this way, is undivided, how are we going to make a statement? If the (two realities) exist (in the ordinary way), then common people should see them." (41)

Mi-pham rgya-mtsho (1846-1912) has appended a commentary to this chapter, of which we now translate the major portion, which is a discussion of gnas-lugs (Experience of Being) as ground (there are also sections on gnas-lugs as path and goal):

"If one asks what is meant by the "Experience of Being," which is labelled by the term, "Indivisibility of the Two Realities," (the answer is that) it is the "motive force for well-being," or "pristine cognitiveness which is primordial sheer lucency." The term, "sheer lucency," means not defiled by impurities, like saying, having light and being free from darkness; and also means that it has the cognitive sensitivity (mkhyen-pa) of pristine cognitiveness. Therefore it is called, "pristine cognitiveness which is free from obscurations." This is shown in view of intrinsic perceptivity in its aspect of cognitive sensitivity: since it does not abide primordially, i.e., since beginningless time, in any extreme whatsoever, it remains as having an actuality or real individuality which is without propositions (attached to it) and thus quiescent. This is shown in its aspect of openness: an analogy for openness and intrinsic perceptivity is the sheer lucency which is the quintessence of the sun, and clarity which is like the sky. In its aspect of cognitive sensitivity it is shown in its uncon-

trivedness and spontaneity.

The totality-field which is the unity of this openness and intrinsic perceptivity is naturally pure irrespective of efforts made on the path. Further, because it is not touched by the two defects of quietism as the unconditioned, on the one side, and samsara as the conditioned, on the other, it is the great purity. Since it remains from the very beginning in this reach and range, appearing in its facticity is inseparable from openness; and thus nirvana is not affirmed as veridical and samsara is not negated as non-veridical. By virtue of this there is no going (out of existence somewhere) of defects and no coming (here) of merits. Since there is no operation of the concepts and appelations of operational reality, the chatter of operational reality is cut off; and since all that is indicated by concepts and appelations such as samsara and nirvana, appearing and openness, defects and merits, has not withstood a critique, all the operations of operational existence are pacified. Therefore, since this (pacification) is beyond the range of distinctions known as primary and operational reality, and since it cannot be posited as two realities which are affirmed and labelled, "operational reality appearing for those of the philosophical systems," and, "the primary reality which remains unoriginated," it is quiescent and beyond all propositions such as existence and non-existence. The reason for this is that, since the two

realities are indivisible as far as the Experience of Being goes, operationally speaking, they can be established, but ultimately the distinction cannot be established.

To sum up: since, in the totality-field-of-meaning (chos-kyi dbyings), the actuality of appearing and openness is non-dual and cannot be divided, saying that the operational and primary realities are indivisible is merely a way of speaking. Even if one takes the totality-field in this way, when one makes a distinction only propositionally based on appearing, everything belonging to the samsara, which appears by virtue of the split into the apprehendable and the apprehending summed up as appearing in the mistaken mode, is operational reality, which is deceptive owing to its transitoriness, instability, and non-verifiability; while that which is summed up by the great nirvana, since every frustration has been eliminated, is sheer lucency, pristine cognitiveness which is cognitively sensitive, the quiescence of all discursiveness, and profound because hard to realize. Since it is beyond that which is made of atoms or instants, it is asserted to be the primary reality which is unchanging and free from the frustrations of change.

Regarding the manner of establishing the primary and operational realities, setting them up according to how things present themselves (snang- tshul), and according to their presential value

(gnas- tshul), is to establish the apparent and open aspects of things. While this is the same as the distinction of samsara and nirvana, here, what is in accord with or what is not in accord with, how things present themselves and their presential value, is the method of establishing the primary and operational realities. Since these two general approaches are found in many sutras, it is not necessary to fall in with one or the other. In this latter method, where one makes a division into the valid and the invalid by logical investigation, since it is a way of establishing the two realities, in the main one should understand it as the, "distinction according to the nominal two realities." And by a logic which examines the primary reality, it is important to determine whether nirvana can withstand a critique or not.

Further, as to the operational reality which is an unstable and shifting realm within the operational sphere of the dualistic mode of appearing, if one investigates this variety of appearings, as like a mirror-image, a magic show, a reflection of the moon in water, and an apparition, there is not even an atom of actuality to be found in it. Yet although it is nothing, it appears: when one investigates by reason which examines according to the primary reality these things that appear, since there cannot be found even a particle of substance which can become the basis of the microscopic or the foundation for the macroscopic, it is open like space. And since one has cut off (the

possibility) of establishing an essence which is proper to an entity, it cannot withstand a critique. Although this is so, in the objective sphere of operation where one merely says, "Don't worry, be happy," when one doesn't look into or investigate (these things), there is appearing as various observable qualities, just as in the example of an apparitional horse or elephant which appears although there is nothing to appear. If one asks, what is the sustaining factor of this appearance although there has never been anything to appear, (the answer is as follows): the sustaining factor is the arising in functional correlation, which is characterized by mistakenness, of whatever potentialities of experience one has become habituated to since beginningless time. For example, it is like the appearance as elephants, etc. to the distorted vision of a person who has taken datura. Thus, these mistaken appearances, the external entities of reality and the person, are without an abiding principle which makes them what they are. Since they are either the presential value or the particular this or that of appearing, they are posited as primary reality in their aspect of being an open dimension, and as operational reality in their aspect of appearing. Thus, ever since the time there has been appearing, since one cannot find any arising, stability, etc., the existential presence or the actuality of these entities remains as appearing and openness which can neither be added to or subtracted from one another. On account of this there is the real

existence (bdag-nyid) of the indivisibility of the two realities.

The indivisibility of samsara and nirvana which constitute the path, (is to be explained as follows): the actuality of samsara, which is pure and real existence which is unborn from the very beginning, called the, "primary reality of sheer lucency," in its status of cognitive sensitivity, and the, "primary reality of the totality-field," in its status of openness, reveals the primary reality of the goal and pristine cognitiveness. Moreover, intrinsic perceptivity, seen only as self-rising pristine cognitiveness, since it arises in five aspects with five modes of Meaningful Existence (sku) based on it, is the primary reality of pristine cognitiveness and the goal. This is summed up in sheer lucency itself. Thus, since the totality-field in its openness and pristine cognitiveness in its lucency, are not-two and cannot be divided into two, in its way of presenting itself, appearing seems like samsara, although in its presential value it actually remains as nirvana. In their ultimate potentiality (gshis), samsara and nirvana are not-two, and the two realities are indivisible." (42)

We may sum up this discussion of the two realities as follows: usually we take the conventional, operational reality as the relative and impermanent, while the ultimate, primary reality is taken as the absolute and unchanging. But these abstractions have no basis other than a conventional one. One has relativized the absolute by bring-

ing it into relation with the relative. It is only by taking the relative as having some independent actuality (rang-bzhin), that one can set up an absolute in opposition to such a changing reality. But the relative has no basis. For instance, we say that it is transitory or momentary. But this is merely a postulated transitoriness, for one can only postulate change of something which doesn't change: the old substratum view. However, in the view presented here, the relative, arising in functional correlation, is not made up of elemental givens. Transitoriness is not a matter of, "Once there was something, now there's nothing," but rather transitoriness is apparitionalness, as illustrated in the famous similies of a dream, reflection, magic show, cloud-land, etc. Events neither arise nor cease, but are merely quantized expressions of primary process:

> "Thus, in the quantum view, the notion of material entities having form, a discrete and fixed spatial configuration, and endurance, a continuous sustenance through time, yields to the notion of process, a dynamical act of continuously evolving becoming.... apart from process, there is no being. ... its reality is defined by the unity of the various processses which enter into its make-up. It is the process of unfoldment of the various components of an entity, gathered into a prehensive unity, that we experience as the sense object; it is not the components themselves that we experience as the sense object, but our unified prehension of these unfolding components." (43)

The unity of process that constitutes events is, as we have seen, a "mirroring" of the totality of process that is nature. Only for convenience do we select certain events as being related to the "causality" of the event that we are interested in. This unity of

process that makes for any "actual entity" Whitehead called "concrescence." This concrescence is apparitional; as soon as it is realized it perishes. Its very being is becoming, and in this universe of becoming, in the quantum view of the vibratory nature of entities, we can discover different vibratory wave-lengths which express the different "epochs" that entities require for their realization, ranging from Planck's constant to the total universe. The universe is thus a field of hierarchical structures; horizontally, observing change at any level, we discover only relativity, but vertically, the absolute process or order of change is revealed.

The Buddhists are not declaring the world to be an illusion, but are trying to point to our distorted "vision" of the primary process. A purely epistemological concern with the problems of perception, for instance, loses sight of the ontological issue. In the theory of transactional experience that we have presented, we have seen that perception is an open-ended process, in which any perception points beyond itself, as part of the protentional-retentional character of experience. Our Gestalt-concepts are merely labels for the operations we have made on a limited aspect of our environment. Epistemology is the study of how our concepts are related to our changing perceptions. Our attention is thereby drawn away from the primary reality (which is not behind or above or beneath our experience, but constitutes the presentational immediacy and value of the field of experience itself) in our striving to keep patching up our continually worn-out "map" of the limited terri-

tory we have singled out as important to us. It must be remembered that mistaken appearing (*'khrul-snang*) covers both what we would call veridical and non-veridical perceptions in the operational sphere. The reflective-thematic aspect of experience is no longer seen as occurring within experience, but we position it at a transcendental standpoint and take its postulates as reality. It is only by accepting the perspectival character of our operational reality, rather than fancying some "God-like survey," with its postulated knowledge of a world-in-itself, that we can discover the primary reality of undistorted cognitiveness. It is not a matter of suppressing conceptual thought, but of not absolutizing it. H.V. Guenther illustrates the interplay of the perspectival and "absolute" aspects of our experience as follows:

> "If a man were under all circumstances immediately conscious of the medium of vision and of its effect on the image of the object, he would immediately be able to see the precise effect of substituting any other medium. He would be like a skilled musician who can play in one key what is written in another wihtout transcibing the score... For him one key is as good as another, just as for a perceptive person one medium is as good as another. The only thing he must not do is mixing the keys or the media." (44)

You might say that the potentialities of experience of the transactional theory represent the habitual mixing of keys that goes on in our experience when the openness of the ability to transpose keys has been lost.

This primary reality is a vast hierarchically-structured field which we humans experience as one of meanings and values, which has become channeled into the tightly knit network of our projects and acts

of projection. This field of values and meanings encompasses the transactional field of purposes; values and meanings are the "why's" and "what for's" of purposes. We want to know how to "tune in" to the "highest" values in man, rather than only to the shifting and unstable purposes and projects. The key lies in the fact that these values are also foundational, as well as being "high." They are one with the very fact of our being, and hence constitute the basis for a rediscovery of normative ethics. It is only because of our conceptualized and manipulative view of facts that we do not see them in their unique and also "vectorially" relational "factiness", which is always also a value. The more we see the "factiness" of facts, the more we see their value and meaning. It is the foundational structure of value and meaning which binds up the past and the future with our present transactions. Not understanding this foundation, however, is the basis for going astray into all sorts of fictive projects. The vision of the foundational structure (sku) of this field of values and meanings (zhing-khams) is presented now by Klong-chen-pa.

Notes to Chapter Two

1. Pearson, C.L., "Worldhood," Philosophy and Phenomenological Research, vol. XXXII, no. 4, June, 1972, pp.491-2.
2. See below, pp.51-55; and also Guenther, H.V., "Mentalism and Beyond in Buddhist Philosophy," Journal of the American Oriental Society, vol. 86, no. 3, 1966, pp.297-304, and Buddhist Philosophy in Theory and Practice, Penguin Books, Baltimore, Maryland, 1972, pp.93ff.
3. Heidegger, M., The Essence of Reasons (Malick, tr.), Northwestern Univ. Press, Evanston, Ill., 1969, p.85.
4. See Brand, G., "Intentionality, Reduction, and Intentional Analysis in Husserl's Later Manuscripts," in Kockelmans, ed., Phenomenology, Doubleday, Garden City, New York, 1967, pp.197ff.
5. See also Klong-chen-pa, Chos-dbyings rin-po-che'i mdzod, Dodrup Chen Rinpoche, pub., Gangtok, Sikkim, chapter 1, where the phenomenal world is presented as the "ornament" of the totality-field (chos-dbyings).
6. Heidegger, op. cit., pp.49, 57.
7. Klong-chen-pa, Theg-pa chen-po'i man-nag-gi bstan-bcos Yid-bzhin rin-po-che'i mdzod-kyi 'grel-pa padma dkar-po, Dodrup Chen Rinpoche, pub., Gangtok, Sikkim, pp.8-23.
8. Pearson, op. cit., p.499.
9. See also Guenther, H.V., tr., Kindly Bent to Ease Us, Dharma Press, Berkeley, Calif., 1975, pp.223-4.

10. This work follows the traditional Indian style of cryptic verses, followed by, in this case, an auto-commentary.

11. don-gyi kun gzhi: "don is the Value of Being residing in the experiencer as the pivot (don) of experiences which he tends to externalize and project into a fictitious realm." (Guenther, op. cit., p.291).

12. sku dang ye-shes. The inseparability of these two indicates that Being, as founding, and Knowing, as founded, are co-extensive. Subordination of Knowing to Being leads to the limitations of Realism; subordination of Being to Knowing leads to the limitations of Idealism. On this see Laszlo, E., Beyond Skepticism and and Realism, Mouton, The Hague, 1966. sku has many affinities with the existential-phenomenological concept of Existenz, which should be distinguished from the traditional category of existence. It "is neither a simple designation of a quid est nor a designation of finite existents in general. It has to do with the emerging of experience in the contextualism of its embodiment, speech, and sociality, whence organizing and interpretive notions arise and whither they return for their justification," and it involves "the world-fact of the emerging of experience in its varied intentionalities." (Schrag, C.O., Experience and Being, Northwestern Univ. Press, Evanston, Ill., 1969, pp.268,9.

13. That is, the analogy is made between Earth-Solidity and the psychophysical constituents (phung-po), sense-fields (skye-mched), and elements of our experiential make-up (khams), which constitute our

"world" of frustrations (more precisely, they are the basis (gzhi) of our frustrations); between Water-Cohesion and conflicting emotions (nyon-mongs) and unstable actions (las); between Wind-Motility and the improper use of the mind (tshul-min yid-la byed-pa); and between Space-Spatiality and mind in its purity (dag-pa'i sems).

14. Why are the samsara, the potentialities for experience, and the loss of intrinsic perceptivity often said to be "beginningless"? The answer is that, although there is a "dimming" of intrinsic perceptivity by virtue of their operation, since Being-as-such cannot decrease (or increase), this "dimming" still represents a total response to Being, albeit in the "deflected" form of the "creation" of objectified entities in a kind of solidification process. This limitation, with its attending feeling of incompleteness, leads to the constant search for that "something more" which will bring satisfaction in the retentional-protentional structure of experience. There is an "end" to smasara in the sense that there is "nothing more" to search for once the initial limitation has gone.

15. 'khrul-snang. See p.45.

16. sems is a term for the intentive structure of mind, analyzed into acts of consciousing-noesis, and its intended objects-noema.

17. Klong-chen-pa, op. cit., pp.8-12.

18. This is an idea that researches into cosmology based on the principles of the general theory of relativity ("geometro-

dynamics") have been approaching. "Empty space" is far from empty, as the discoveries of curvature and gravitational waves have shown. Matter is not separate "filled stuff," as we have seen. The great question in Western Cosmology has been: "Why is there something rather than nothing?" The presentation of Yogācāra-Mādhyamika epistemology and ontology that Klong-chen-pa gives here shows how the Buddhists tried to steer clear of both "something" and "nothing" with the conception of the two realities (bden-pa gnyis). The cosmological idea is neatly summed up in the Tibetan phrase, "Although (it) isn't anything at all, it appears as anything." (ci-yang ma-yin la cir-yang 'char-ba) (oral communication from Lama Tarthang Tulku).

19. Klong-chen-pa dri-med 'od-zer, Mkha-'gro yang-tig, part 2, Tulku Tsewang, Jamyang, and L. Tashi, pubs., New Delhi, 1971, f.88a.

20. Laszlo, E., System, Structure, and Experience, Gordon & Breach, New York, 1969, chapter 1. A similar analysis by Platt, J., "The Two Faces of Perception," op. cit., is called a "Sensory-Motor Decission System."

21. See chapters 3 and 4 below.

22. The unity of the invariantly-abstracted object is thus not supplied by the mind. Husserl, because of his ties with Kantian philosophy, could not free himself from the notion of an "Idea" as the central core of the noema, since the object is always subject to further determinations, and thus one needs a "Principle of Reason" to tie together the various perspectives ("inter-

noematic unity"). Aron Gurwitsch, probably the best writer on the phenomenology of perception following Husserl, improved on him in this respect, through the application of principles from Gestalt psychology, and showed that there was no need for such a "Principle of Reason." What Husserl lacked was a "theory of organization," which might be said to already begin in the eye:

> "we have introduced the notions of functional significance and Gestalt-coherence for the descriptive characterization and analysis of a Gestalt-contexture (one of the simplest examples being a melody) whose constituents mutually determine and qualify one another. A constituent of a Gestalt-contexture is phenomenally defined and made to be what it is by the role which it plays for, and the function it has within, the Gestalt-contexture as a whole, that is to say, with respect to its other constituents... the Gestalt-contexture as a whole is present in each of its constituents so far as each constituent realizes the whole contexture at the specific place which it holds within it. We thus come to be confronted with a kind of unity - unity by Gestalt coherence - which is not due to a supervenient special factor bestowing unity upon materials which, because they are lacking unity by themselves, are in need of being unified from without. Unity by Gestalt-coherence denotes, on the contrary, an internal unity which consists in nothing other than the constituents of a Gestalt-contexture deriving from, and assigning to, one another their functional signficance in thoroughgoing reciprocity." (Gurwitsch, A., "Perceptual Coherence as the Foundation of the Judgment of Predication," in <u>Phenomenology: Continuation and Criticism</u>, Kersten and Zaner, eds., Martinus Nijhoff, The Hague, 1973, pp.73-4)

This part-whole relationship in Gestalt psychology corresponds to that of the <u>rnam-pa</u> (observable qualities, noematic correlates) and the <u>yul</u> (object as Gestalt-coherence). When Klong-chen-pa states that the <u>snang-yul</u> (apparent object) is not <u>sems</u> (mental), while also denying that it is an independently-existing external object, he is saying

what Gurwitsch is pointing out: the object is not a "Principle of Reason," but a Gestalt-contexture. It is "bodily present," but not in the manner realism would have us believe, since it is *never* wholly given in a determin*ate* way at any place in the Gestalt-contexture, but always points to further determin*able* qualities. The "realization" of determinate qualities is termed *snang-ba*, appearing: I see this table as an object with these determinate, and further determinable qualities. This is the functioning of the *yul-gyi bag-chags*, which belongs to *sems*. The apparent object is *med-bzhin snang-ba*, an appearing although there has never been anything (to appear), but which comes about in a contexture which the Buddhists call "functional correlation" (*rten-'brel*). See also Myers, C.M., "The Determinate and Determinable Modes of Appearing," *Mind*, LXVII, 1958, pp.32-49.

23. Bohm, D., op. cit., pp.207-8.
24. ibid., p.198.
25. ibid., p.213.
26. "Reality" or "non-reality" are judgments determined by the context of a particular order of existence and the relevancy of an object's meaning to that order. The predication of existence involves the application of a specific relevancy-principle which is constitutive of an order of existence. See Gurwitsch, A., *The Field of Consciousness*, Duquesne Univ. Press, Pittsburgh, Pa., 1964, Part Six.
27. See Guenther, H.V., op. cit., pp.48ff.

28. Klong-chen-pa, op. cit., pp.12-14.

29. goms-pa. In Western psychology, habituation can refer to the tendency for the subject's level of attention to drop off after repeated contacts with the same object.

30. snang-srid: snang dnotes presence, thereness, and srid, "what is done with it." Srid-pa, "becoming," is also the tenth member of the "chain" of functional correlation, coming before skye-ba, birth. It indicates that individual existence is pro-jective, where one is always "ahead of oneself," "sketching out" possible ways to be. To put it simply: we are constantly being born into a world which we have already created for ourselves.

31. Klong-chen-pa, ibid., pp.14-18.

32. Haas, W.S., The Destiny of the Mind East and West, Macmillan, New York, 1956, p.117. An unfortunately neglected work.

33. Guenther, H.V., "Mentalism and Beyond," op. cit., p.307.

34. Platt, J., op. cit., p.66.

35. Mi-pham 'jam-dbyangs rnam-rgyal rgya-mtsho, dBu-ma rgyan-gyi rnam-bshad 'jam-dbyangs bla-ma dgyes-pa'i zhal-lung, manuscript, ff.66a-67a. Compare this "obsession for veridicality" with Ricoeur's explication of Husserl's concept of Experience (Erfahrung, which we are here calling "mistaken appearing," 'khrul-snang):

> "In experience we are already on the level of a perception shot through with a "thesis", that is to say with a believing that posits its object as being. We live through perception in giving credit to the vehemence of presence,

if I may use such language, to the point of _forgetting ourselves or losing ourselves in it_." (Emphasis mine, from Ricoeur, P., _Husserl, An Analysis of His Phenomenology_, Northwestern Univ. Press, Evanston, 1967, p.40.)

36. Platt, J., op. cit., p69.

37. Kockelmans, J., _Phenomenology and Physical Science_, op. cit., p.37.

38. Klong-chen-pa, op. cit., pp.18-23.

39. Taylor, J., "Matter Beyond the End of Its Tether," and "Questions Without Answers," in _Cosmology Now_, John, L., BBC, London, 1974, pp.

40. Klong-chen-pa, op. cit., p.799.

41. ibid., pp.797-8.

42. ibid., pp.1078-1083, _Le'u bco-brgyad-pa'i tshig-'grel bzhugs-so_.

43. McKenna and McKenna, op. cit., pp.32-3.

44. Guenther, H.V., _Buddhist Philosophy in Theory and Practice_, op. cit., p.126.

III. The World as a Buddha-field: the Intelligent Universe

An important means of breaking out of the narrow world of the samsara - the running around in circles after our own fictions - is creative imagination, which is not mere fancy, but a symbolic presentation of meanings inherent in lived-through experience. As L.L. Whyte has pointed out, human imagination is the supreme ordering agent in the known universe. (1) That is, it is the culmination of ordering and organizational tendencies present in all life, tendencies which bring with them increasing freedom as organisms become more complex. In this view, imagination is not a human luxury, but an important part of human biological self-regulation and development. The return of meaning to the world with the return of the exiled experiencer has important consequences:

> "Meaning signifies organization, and there is no organization without purpose. What is the purpose of organization? Is it perhaps to retard entropy? In such a case, the meaning of meaning for that which apprehends meaning is the necessity to purposefully create and maintain order. Note retard, not reverse; according to the Second Law of Thermodynamics, entropy cannot be reversed; in localized areas, however, it may cease temporarily. In organisms this situation occurs, and it also occurs in low-temperature systems which mutate to states of higher order instead of "going over" into disorder." (1)

A symbol of such meaningful organization is the Buddha, or more precisely, the sku, Meaningful Existence as a "Founding Stratum." (2)

Four points should be noted in following Klong-chen-pa's vision

of the Buddha-fields, which, as we have mentioned, is taken from the Hwa-Yen (Avataṁsaka) Sūtra, which had been translated into Tibetan, although no school grew up around it as in China, nor were any commentaries written on it, as in China. These 4 aspects of the vision represent areas that are getting increasing attention in contemporary science, as it strives for a new vision of the world: 1. the dynamic properties of space, 2. hierarchical structures, 3. interpenetration, and 4. the notion of an intelligent universe. 1. is presented as the unfolding of the 3 Founding Strata of Meaningful Existence, which can be seen as an "ingression" into space-time, from an omni-potential "super-space," or "pre-geometry," or "Extensive Continuum," denoted by the Founding Stratum of Meaning Itself (chos-sku, dharmakāya); through a curved space-time continuum of tremendous organizational energies, hierarchically-arranged, denoted by the Founding Stratum of Existence in a World-Horizon (longs-sku, sambhogakāya); to a stable world of manifest structures, denoted by the Founding Stratum of Concrete Meanings (sprul-sku). 2. is presented in a vision of innumerable world-systems arranged in hierarchies of 25 levels, representing different spiritual "principles" radiating into the worlds of the longs-sku, each having its own space-time field. This is symbolized, although Klong-chen-pa does not go into it here, by the 5 "determinants" (nges-pa lna) of the Founding Stratum of Existence in a World-Horizon: its own place, time, teacher, retinue, and message. 3. is presented in the imagery of each Buddha-field containing within it millions of Buddha-fields.

In Whitehead's words, "the continuum is present in each actual entity, and each actual entity pervades the continuum." (3) That is, any particular level in a hierarchy is an "interface" between sub-systems which it organizes into a whole, and super-systems of which it is a sub-system. Any particular system must "fit" into the interface in order to maintain itself. It is by virtue of such interpenetration that systems relate to each other and thus evolve modifications of organization and "behavior." The whole process is an evolutionary "ingression" into space-time of an "intelligent" universe. 4. is thus manifested in the intentional relation of each Founding Stratum (sku) to its field (zhing), as in the epithet quoted above (p. 31), "The Ground adorned by flowers." The field is the Ground (gzhi), the Founding Stratum is the flower (me-tog), the "incarnation," or "flowering" of intelligence. Thus, Samantabhadra (kun-tu bzang-po), the Founding Stratum of Meaning Itself (chos-sku), is in intentional union with his "world", the Ghana-vyūha field.

By "intelligence" we mean that any worldly being possesses an inner horizon by virtue of the self-integrating identity it achieves in every act of concrescence. This is why Whitehead used such terms as "feeling" and "satisfaction" in regard to concresence. But perhaps the term "information" will be preferable to "intelligence," although the criteria for the distinction between the inanimate and the animate (such as the notion of "simple location" as the method for determining the mode of being of bits of matter) become hazier

and hazier as research into systemic properties continues to cut across such boundaries. Of course we must avoid attributing aspects of human mental activity to other levels of nature's hierarchy, as if we were the last word. The task is to discover common systemic properties governing many or all levels accessible to us. One such property we are calling intelligence or information, which is present in the stability of atomic structure, the selectivity of biological macromolecules, as well as in the Gestalt-perceptions of human beings. E. Laszlo has called this property of natural systems, "self-creativity":

> "Self-creativity in the sense suggested here is not a mysterious quality, innate to entities with "spirit" or "soul." It is a response to changing conditions which cannot be offset by adjustments based on the existing structure. In this more modest sense, self-creativity is a pre-condition of evolution.... <u>It signifies the ability of systems to generate the very information which codes their structure and behavior</u>." (4) (Emphasis mine.)

Such an understanding attempts to go beyond the conception of material nature as a machine and mind as being infused with some kind of "life force," while also trying to steer a middle course between teleological and random-statistical evaluations of evolution, whose roots we have traced to Greek philosophy (p. 4). Laszlo continues:

> "Complexity of structure or function is not a goal of evolution; it is a result of it. There is no goal (or we know of none in contemporary sciences), but there is a pattern all the same: the pattern of self-transforming natural systems in interaction." (5)

The "goal" is the immanent "satisfaction" in concrescence of increasing order and knowledge; intelligence-as-information is at the basis of

such a "creative advance" of nature. Once again, this is indicated in the symbol of the Buddha as the teacher, of which the historical Buddha, Shakyamuni, partakes, as sprul-sku, the Founding Stratum of Embodied Meaning. The Tibetan term for Buddha, sang-rgyas, indicates that it is an ordering principle or even like an energy-field: sang - all that has been obscuring has gone, and rgyas - all that is positive has expanded. Such organization is inseparable from information and knowledge, and, in this sense, the world, as an over-arching structure of meaning, is our teacher and the basis for our self-regulation.

A chart of the over-all structure of Klong-chen-pa's vision (although such an attempt in matters such as these is dubious) is given on the next page to help guide the reader over the "Invisible Landscape." Klong-chen-pa begins:

"Having properly realized that from which (the world) arises, we shall now begin to set forth how the world appears. To explain what has just now been said:

When there is appearance as the 3 realms of samsara,
The Buddha-fields are displayed by the spiritual responsiveness (thugs-rje) of the Victorious Ones.
Just as the Wish-fulfilling Gem fulfills all the values (don) of sentient beings,
Are they led to peace from projective existence.

Thus, whenever there arise any sentient beings, who are characterized by a loss of intrinsic perceptivity, the Buddhas, by the power of their immeasurable spiritual responsiveness, see (them)

Relationship of the 3 Founding Strata and the Buddha-fields
According to the Yid-bzhin mdzod

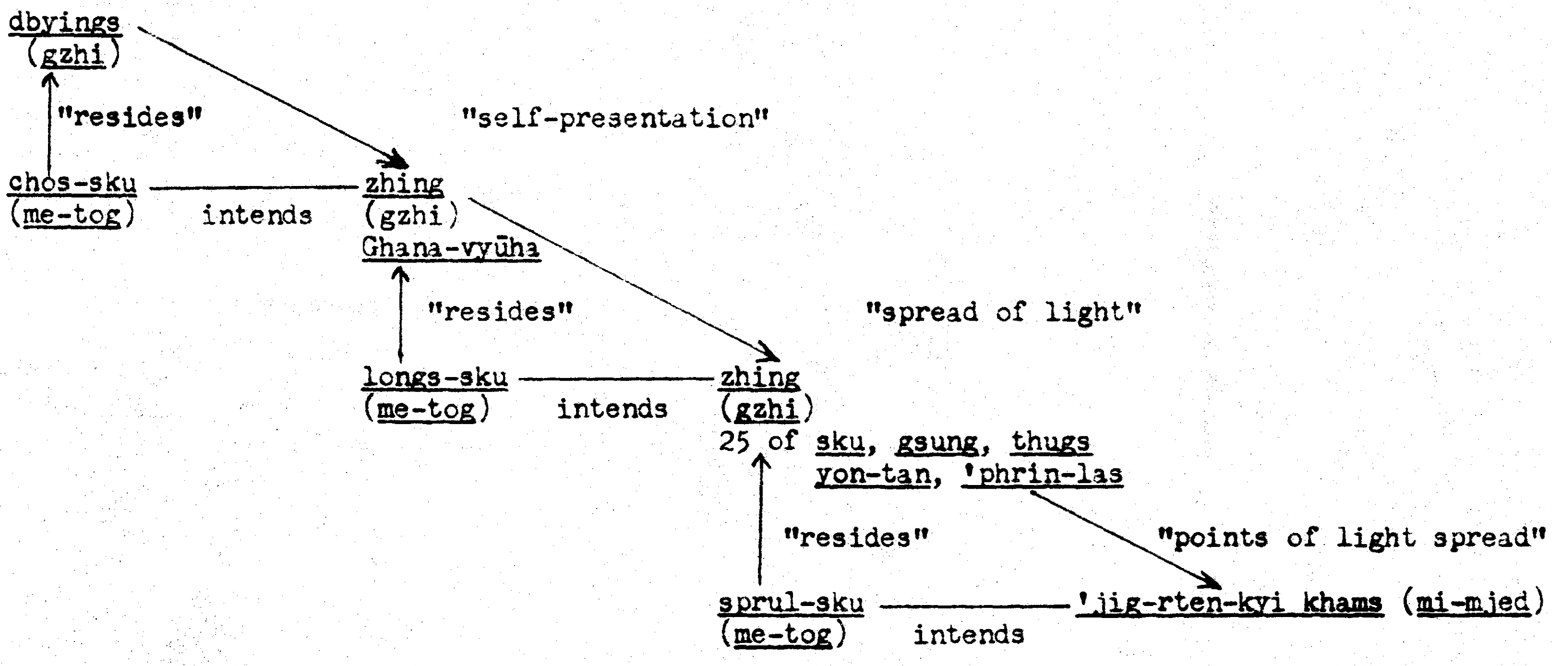


Chart #3

and display the Buddha-fields in their completeness. This accomplishing of the values of sentient beings in a manner that is always for the best, arises without any strain or effort, and is the performing of charismatic activity (phrin-las) which leads beings out of projective existences into nirvana.

The method of this vast activity is:

In the Buddha-fields of sentient beings as vast as the sky,
The Buddhas of the 3 times fulfill the great value (inherent in sentient beings).

The display of establishing in freedom the innumerable sentient beings is (as follows): the sentient beings who fill the extent of the ten directions of space, are all encompassed by the Buddhas of the past, present, and future, who bring to fulfillment their (inherent) value. Out of these, as to this Saha world in particular:

The way how the teachers of this Buddha-field train (the sentient beings)
We shall now explain in a condensed way.

The majestic splendor (dpal) of everything, samsara and nirvana,
The teacher, Samantabhadra, the Wish-Fulfilling Gem,
Awakening to Buddhahood since beginningless time,
Out of the reach and range of the Founding Stratum of Meaning Itself,

(There is) spontaneity as the Founding Stratum of
Existence in a World Horizon.

From the evoking (_sprul_) of the 3 Principles of Action
(_sems-dpa'_) on behalf of sentient beings through
Authentic Embodiment, Communication, and Noeticness, (6)

The values (inherent) in sentient beings in the statuses
of the 6 life-forms are fulfilled.

From dwelling since beginningless time,

This Lord who represents the thrust towards, and solicitation by, limpid clearness and consummate perspicacity since beginningless time, in his status as the Founding Stratum of Meaning Itself, is the non-dual pristine cognitiveness, who is called the teacher Samantabhadra. In his status as the Founding Stratum of Existence in a World-Horizon, he is called the Buddhas of the 5 Life-Styles (_rigs_). In his status as the Founding Stratum of Embodied Meaning, he is called the Victoriously Transcendent Shakyamuni. When the Founding Stratum of Meaning Itself has been obtained, one spontaneously resides there as the ornament of the Ghana-vyūha field. Out of the Embodiment, Communication, and Noeticness of this, from the evoking of the innumerable Buddhas and Bodhisattvas, the value (inherent in) sentient beings is brought to fulfillment. In particular, the Principle of Action on behalf of sentient beings through Noeticness calls forth Vajrapāṇi, through Communi-

cation: Avalokiteśvara, and through Embodiment: Mañjuśrī. Bringing to fulfillment the value (inherent in) sentient beings within the 6 life-forms without exception, is the appearance (of the Buddhas and the Bodhisattvas) as long as the realm of projective existence is not empty.

Thus, from out of the display of the fields of beings with their worlds which fill celestial space, when one ponders with a partial understanding of these (fields), our world of training which appears as just the size of a mustard seed or the tip of a hair, the way this lamp, this display, appears is (as follows):

Out of the Buddha-fields unthinkable and uncountable,
(The beings) of this Saha world, in particular, are
brought to fulfillment.
From the Totality-field of the Founding Stratum of
Meaning, the Ghana-vyūha field,
By the spreading of the 5 intensities of light, the
self-manifesting sheer lucency,

That which comes as the Founding Stratum of Existence in a World-horizon, self-manifesting from the presence of precious pristine cognitiveness, are the Buddha-fields which are inseparable from the reach and range of the totality-field of the Founding Stratum of Meaning, which is like the sky: this is the spontaneous ornamentation of the Ghana-vyūha field. Remaining unmoving from the intentionality of Buddhahood (dgongs-

pa) which is the inseparability of the Founding Stratum of Meaningful Existence and Pristine Cognitiveness, there spreads unthinkable rays of light, calling forth innumerable Buddhas and Buddha-fields (constituting) the Founding Stratum of Existence in a World-horizon. Each one of these (Buddhas) will bring to fulfillment innumerable (beings) residing on the spiritual levels of the Bodhisattvas. Also from the Noeticness of the Founding Stratum of Existence in a World-horizon, unthinkable Buddha-fields of the Founding Stratum of Concrete Meanings spread, calling forth innumerable Buddhas of the Founding Stratum of Embodied Meanings, who will bring to fulfillment innumerable sentient beings. From this, especially how the display of Buddha-fields in which the Victoriously Transcendent One makes his appearance, brings (beings) to fulfillment, is (as follows): from the Ghana-vyūha field which is the self-presentation of the totality-field of the aforementioned Founding Stratum of Meaning, by the spread of light from the presence of the 5 modes of self-presentational pristine cognitiveness,

The field which is ornamented by a Jeweled Lotus in
which the Founding Stratum of Existence in a
World-horizon resides,
(Is called) the Ground Ornamented by the Essence of
of Flowers.

The fields which are an ornament to this are equal in
number to the atoms in a million <u>Saha</u> worlds.

At this time, by the curling up of all the rays of light in pure space, there arises, as a foundation, a petalled lotus of jewels which is high and wide, encompassing everything, like the continuum of space. Since it is based on this, (the field) is called the Ground Ornamented by Flowers. The size of its extent is like a display of Buddha-fields equal to the number of atoms in a million <u>Saha</u>-worlds. Each of these fields are ornamented by innumerable Buddha-fields. For example, it is like saying that there are innumerable Buddha-fields beneath and above each leaf of the field of limpid clearness and consummate perspicacity, which is the quintessence (<u>snying-po</u>) of the field of Mañjuśrī. Thus, it is a great lotus.

There, seated on the stem of a lotus,
Is one who is an ocean full of accomplishments.

This is the display of vast Meaningful Existence, seated in spontaneity, unchanging and unmoving.

From each of his pores flows a stream of fragrant water.
Based on this, by the display of unspeakable and innumerable Buddha-fields,
The value (of beings) is brought out.

The appearance is (as follows): from each pore, in all cardinal

and intermediate directions above and below this Meaningful Existence-in-Composure (sku mnyam-par bzhag-pa), flows a great ocean full of fragrant water, and each is ornamented by unthinkable and innumerable great oceans of Buddha-fields. By the appearance of countless Buddhas and sentient beings, the value (of beings) is brought out.

As to (his) two hands in particular:

From the fragrant ocean which is based on this Composure,
On innumerable anthers of a great lotus plant
Are countless Buddha-fields and then more Buddha-fields.

There are countless hierarchies mutually-related, in 25 levels in equal numbers up and down. Within these,

In the middle of these anthers in particular,
Are piled up 25 world-systems of 3,000 worlds each,
In innumerable arrangements, like patterns in a silk brocade.

In the palm of (his) hand, within the great ocean of fragrant smelling herbs, there are uncountable anthers of lotus plants. And since (the world-systems) are based on these, they are called "Worlds ornamented by the essence of flowers." In the middle of these anthers are displayed Buddha-fields hierarchically-arranged in 25 levels up and down. There are innumerable arrangements, like patterns in silk brocade, (which are) the self-manifestation of uncountable sentient beings, Buddhas, and various beautiful forms and shapes." (7)

Klong-chen-pa now presents a list of the 25 levels, our world being the 13th. It is called Saha (mi-mjed), because "it is unbearable, since the sentient beings born there become mixed up with the 3 Poisons, or it is unbearable due to conflicting emotions and unstable actions, according to the mdo-sde padma-dkar-po." (8) In the Lam-rim ye-shes snan-ba'i brjed-byang by Padma phrin-las snying-po, it is stated:

> "It is called mi-mjed because one does not distinguish the impetus and the results of the conflicting emotions and unstable actions." (9)

Klong-chen-pa continues by showing how these 25 worlds result from the permutations of the Embodiment (sku), Communication (gsung), Noeticness (thugs), Qualities (yon-tan), and Charismatic Activity (phrin-las) of Samantabhadra, beginning with sku-yi sku, etc. Our world, the 13th, is the Noeticness of Noeticness (thugs-kyi thugs), and it is here that we can enjoy liberation in one lifetime through the teachings of the Guhya-mantrayāna, more commonly known as the Vajrayāna. Klon-chen-pa then continues with the Founding Stratum of Embodied Existence (sprul-sku):

> "In the fields which rest on the Ground of the Founding
> Stratum of Existence in a World-horizon,
> By engaging in the dialogue (of self and other) (longs-spyod)
> Appear the individual teachers who train (the beings)
> through their manifestations.
>
> In these innumerable Buddha-fields which base themselves on the presence of the Founding Stratum of Existence in a World-

horizon, appear, out of points of rays of light spreading from all the great oceans full of accomplishments (rnam-par snang-mdzad gang-chen mtsho), uncountable manifestations which train (beings according to their needs), and thus the value (inherent) in all these beings is made equal." (10)

This chapter of the Yid-bzhin mdzod concludes with a discussion of the historical Buddha, Shakyamuni's birth, teaching, etc. in our world, the details of which are not of importance to us here. The stage has now been set for the presentation of our particular world-system, which is an "impure" Buddha-field, and is well-known from its systematization in the Abhidharma-kośa. Here, entropic and negentropic tendencies clash, as relatively rigid structures are built up and dissipate.

Notes to Chapter Three

1. Whyte, L.L., The Universe of Experience, Harper, New York, 1974, p. 87.
2. Guenther, H.V., Kindly Bent to Ease Us, op. cit., Chapter 13.
3. Whitehead, A.N., quoted in McKenna & McKenna, op. cit., p. 49.
4. Laszlo, E., The Systems View of the World, Braziller, New York, 1972, pp. 46-7.
5. ibid., pp. 58-9.
6. Guenther, H.V., op. cit., p. 286.
7. Klong-chen-pa, op. cit., pp. 23-8.
8. ibid., p. 30.
9. Padma phrin-las snying-po, Lam-rim ye-shes snan-ba'i brjed-byang, Smanrtsis Shesrig Spendzod, vol. 8, Leh, Ladakh, 1971, p. 31.
10. Klong-chen-pa, op. cit., p. 33.

IV. The Evolution of Our World

Our perishable world-system (_'jig-rten-kyi khams_) is divided according to the 4 defining characteristics of all entities of reality: origination (_skye-ba_), stability (_gnas-pa_), decay (_rga-ba_), and transitoriness (_mi-rtag-pa_), here "cosmicized" as 4 Epochs (_bskal-pa_) of enormous lengths of time. Klong-chen-pa, as has been mentioned, basically follows the outline of the third chapter of the _Abhidharma-kośa_, but once again, as in the previous chapter, his great genius shows in giving a structure to a system that was probably only partially understood by the Buddhists themselves when they adapted their Cosmology from traditional Indian sources. We are refering here to his division of the Epoch of Origination (_chags-pa'i bskal-pa_) into the site for the foundation (of the world-system) (_rten-gzhi_), the foundation (_rten_), and the founded (_brten_), i.e., the 5 Evolutive Phases (_'byung-ba_); the cosmic mountains, oceans, and continents; and the sentient beings, respectively. (1) We shall be concerned with the site for the foundation, as the 5 Evolutive Phases are crucial in trying to understand anything about Buddhist Cosmology; yet an adequate understanding of them cannot be gained from the _Abhidharma-kośa_, or even from the _Yid-bzhin mdzod_, as we shall see. Klong-chen-pa begins his third chapter:

> "Having shown in brief the systematic presentation connected with the _Saha_ world-system, which is a small piece of the understanding of the field, pervasive like the continuum of

the sky, that is based on the Great Encounter (longs-spyod chen-po) of the Victoriously Transcendent One (with his world). Now, in order to present its nature in more detail, we shall first present a summary:

> Thus, out of the appearance of the Buddha-fields
> We shall present, in particular, the Saha world-system,
> Which has 4 Epochs: Origination, Stability, Destruction ('jig), and Emptiness (stongs).

While we have shown how the 3,000 Saha world-systems (2) (arise) from the "Field which is Adorned by Flower-essences," which is the display of the Buddha-fields that we have just discussed, (now) we should properly understand the sentient beings (bcud) and environing world (snod) (3) of the perishable world-system by means of the time-periods of origination, stability, destruction, and emptiness. First, the appearance of the time period of origination:

> First, the sentient beings originate from above
> And the environing world, which is founded on Space-Spatiality, in the same way.
> The environing world which is founded on Earth-Solidity originates from below.

At this time, if we take the origination from the start, after the 20 Interval Epochs (bar-bskal) (4) of the Epoch of Emptiness have been completed, the palaces of light (gzhal-med khang) (5) which are founded on Space-Spatiality originate from above,

while the sentient beings who are the quintessence (of the world), also spread from above to below. First, the explanation in stages of that which is founded on Earth-Solidity:

If we sum these stages up in brief, there are three.
Of the three, the site for the foundation, the foundation, and the founded,

To make a proper start, we shall make a presentation summed up according to that which is in accord with the sūtras of the ordinary pursuit, which give a mythological presentation of the perishable world-system; according to that which is superior to the above, the extraordinary pursuit (represented) by the Hwa-Yen; and also according to the Tantras. (6) First, in showing the (Epoch of) Origination, (there are) the site for the foundation (of the world), the Evolutive Phases; the foundation, the cosmic mountains, etc.; and the founded, the sentient beings. Of these,

First (we shall show) the way how the Evolutive Phases are built up.
Following the completion of the 20 Interval Epochs of the Epoch of Emptiness,
There arises on the surface of Space-Spatiality radiant with white light called Pure Mentation,
(The mandala of) Wind-Motility equal in extent to the 3,000 world-systems.

It is said in the Ārya-ratna-guṇa-samcaya-gāthā:

> "Wind-Motility is founded on Space-Spatiality, and Water-Cohesion is founded on this. On this the Great Earth-Solidity is founded, and on this the moving beings are founded."

The explanation in stages is (as follows): following the (Epoch of) Emptiness, at first there is Space-Spatiality of white light called Pure Mentation (yid rnam-par dvangs-pa), whose sustaining impulse at this time is the collective karma of sentient beings, which gives rise to the split (which marks the emergence) of the environing world of one world-system of 3,000 perishable worlds. The remote sustaining impulse of the mandala of Wind-Motility on the surface of this (Space), is the collective karma of sentient beings born here. The proximate sustaining impulse is Wind-Motility. If you ask how this is, (the answer is as follows):

> Stirring Up, All-Encompassing, Pounding,
> Collecting, Maturing, Separating:
> These are the 6 Winds that gradually
> Stir, spread, scatter, collect, originate, and separate.

Out of that which is called the Stirring Up Wind-Motility, which has just come up, the All-Encompassing Wind-Motility, by extendin all directions, condenses like fcg in the sky; the Pounding Wind-Motility, which has as its symbol, the (syllable) "Yam", scatters like clouds in the sky, and the Collecting Wind-Motility, by bringing together all these, thickens and heightens the vast field. From the shining red Maturing Wind-Motility of fire having spread and burned, the circle of Wind-Motility arises which

is level and mild. By what is called the Separating Wind-Motility, various colors are each scattered with the rising of roaring noises. From among these, the stirring up of the Stirring Up Wind-Motility, is the real originator. If one asks what is the size and color of this (mandala of) Wind-Motility, (the answer is as follows):

Green in color, shaped like a double-vajra surrounded
by a circumference, (7)
It is 6,000,000 yojanas in height and of immeasurable
width,
And hard like a vajra.

The color of this Wind-Motility is like that of the jewel Sapphire. Its shape is like a double-vajra with a round circumference around it. Its size is of unlimited width and 6,000,000 yojanas in height. Its function is to solidify and harden, and on this function the functions of the mandalas of Water-Cohesion, etc., are founded. From this (there comes) the mandala of Water-Cohesion. In the space above,

From the condensation into clouds having the essence of gold,
By the falling rain from above, the mandala of Water-
Cohesion (forms).
(It is) completely round, and called Fine and Clear (water).

Following the origination of the mandala of Wind-Motility, the sustaining impulse of Water-Cohesion is as follows: from the condensation in space of clouds having the essence of gold,

there falls a stream of rain as thick as cart-axles. It is called "Water which is Fine and Clear." Its shape is round and it originates like the full moon. Its size:

Its height is 1,120,000 yojanas.

It is surrounded by the founding Wind-Motility.

This (mandala of) Water-Cohesion is 1,120,000 yojanas in height. It does not pour over its edge since it is encircled by the founding Wind-Motility. After this, the mandala of Earth-Solidity:

Since Water-Cohesion is stirred up by the Stirring Up Wind-Motility,

Earth-Solidity originates as a 4-sided mandala on this.

The sustaining impulse (of Earth-Solidity is as follows): from the mandala of Wind-Motility beneath the Water, the Stirring Up Wind-Motility arises with a grinding sound, and from all the sustaining impulses having been stirred up and combined together, the golden Earth-foundation is established like a piece of cloth appearing on a lake. It is 4-sided and golden in color. Its size:

Its height is 320,000 yojanas

While its diameter is 1,203,450.

The depth of the Water is 800,000 yojanas, and the height of the Earth which remains above it is 320,000. The diameter of both the Water and Earth (mandalas) is 1,203,450. Its circumference is 3 times that. These complete the presentation of the site for

the foundation (of the world)." (8)

The 5 Evolutive Phases, usually translated as the 5 "Elements", are not substances, but refer to phases in the functioning of matter-energy as a vibratory epochal **process** (See above, p. 20). Each phase is associated with a color (as well as many other correspondences), and this leads us to propose that if one were to draw up a chart of the spectroscopic analysis of the chemical elements as we know them in the West, one could then group them under various wavelengths-colors-Evolutive Phases (e.g., Li, H, and C: red; He, Mg, Cl: yellow, etc.). The Tibetan term _'byung-ba_ corresponds to the Chinese _hsing_ (行), in regard to which M. Porkert states:

> "Between the 16th and the 18th centuries, European missionaries aroused interest in and furthered understanding of Chinese culture by alluding, wherever feasible, to familiar notions and concepts. Because of the limitations of their philological resources they rendered _wu-hsing_ by 'Five Elements'.... The 5 Evolutive Phases, as their name implies, constitute stretches of time, temporal segments of exactly defined qualities that succeed each other in cyclical order at reference positions defined in space. Or, couched in terms closer to practice, the 5 Evolutive Phases define conventionally and unequivocally energetic qualities changing in the course of time. They typify the qualities of energy by the use of 5 concepts (wood, fire, earth, metal, water) which, because of the richness of their associations, are ideally suited to serve as the crystallizing core for an inductive system of relations and correspondences." (9)

The Tibetans, of course, follow the Indian tradition of Earth, Water, Wind, Fire, and Space. Let us now turn to a deeper level of interpretation of the Evolutive Phases, to see how it sheds light on the cosmology presented above. In his more mature _sNying-tig_ writings, Klong-chen-pa puts the Evolutive Phases in their full ontological context:

"Now, the explanation of how going astray arises from the Ground of Being. One goes astray because one does not understand the 3 facets of pristine cognitiveness (10) as appearance and one's own intrinsic perceptivity, and one does not understand the presence of one's own intrinsic perceptivity as the 3 Founding Strata of Meaningful Existence.

Although there is no going astray in the above Ground of Being, one goes astray due to a loss of intrinsic perceptivity, which is like a dream, or an apparition, or a lion drowning in water. The intrinsic lumination (rang-mdangs) (11) which is the facticity of Being, shines in a spontaneous halo of 5 hues; when, by the creative functional dynamics (rtsal) of intrinsic perceptivity which is integrative responsiveness (thugs-rje, see chart #1, p. 33), one sees these hues in a concrete way, one goes astray because one doesn't understand them as both a lucid presence and nothing.

Because one appropriates, into one's existence, the presence of these 5 hues as some-thing, one goes astray into a conceptualized facticity. Because one appropriates the presence of these 5 spontaneous hues, there arises the 5 external Evolutive Phases, as in the view of the heretics in which they are taken as eternal. (See above p. 52.) Furthermore, intrinsic perceptivity is the seed of everything. For example, it is like the Wish-fulfilling Gem, since it brings about what we

intend.

The way how the 5 Evolutive Phases originate (is as follows): since the hues intrinsic to pristine cognitiveness are taken as individuals by integrative responsiveness, they are established as something concrete. Because the presence of the blue hue of the Totality-field Pristine Cognitiveness is appropriated, the Evolutive Phase of Space-Spatiality arises. In the same way, from the Mirror-Like Pristine Cognitiveness, the Evolutive Phase of Water-Cohesion arises; from the Sameness Pristine Cognitiveness, Earth-Solidity; from the Distinctness Pristine Cognitiveness, Fire-Temperature; and from the Accomplished Pristine Cognitiveness, Wind-Motility.

These arise because there is born an appropriation of the intrinsic lumination belonging to pristine cognitiveness, as a "this". These 5 Evolutive Phases which possess creative functional dynamics, all originate because they are "informed" (khyab-pa) by the creative functional dynamics of a loss of intrinsic perceptivity. This creative functional dynamics of a loss of intrinsic perceptivity is known as the "Informing Motility (khyab-byed-kyi rlung)." Because the Evolutive Phases are informed and energized by this, they have their individual functionings.

How the beings and environment of the perishable world originate from the 5 Evolutive Phases (is as follows): in the expanse of open space, Wind-Motility (shaped like) a double-vajra originates;

on this, an ocean of Water-Cohesion originates; on this, the golden Earth originates; on this Mount Meru and the 4 continents originate. These are not born or manufactured; although they arise from the sustaining impulse of going astray due to a loss of intrinsic perceptivity, since they remain the functioning of pristine cognitiveness which sustains them, they are spontaneously self-originating.

How the sentient beings and their environment originate from these (is as follows): in this world-system which is established from the 5 Evolutive Phases, there arises the 5 hues which are the creative functional dynamics of pristine cognitiveness. From the yellow hue, the life-form of the gods originates; from the green hue, the life-form of the titans originates; from the red hue, the life-form of men originates; from the black hue, the life-form of animals originates; from the white hue, the life-form of hell originates; and from the gray hue, the life-form of the spirits originates. From the creative functional dynamics of these originate innumerable sentient beings.

From the sustaining power of pristine cognitiveness and the collective merits of sentient beings, the sun, moon, and stars originate. Because these 5 originate from the active energy (dangs-ma) of the 5 Evolutive Phases, they are called sentient beings which are the internal quintessence (nang-bcud). Since these (beings) are the result which is produced

by the initial sustaining impulse of a loss of intrinsic perceptivity, since now the samsara is just this loss of intrinsic perceptivity, it neither increases nor is destroyed." (12)

Klong-chen-pa discusses the same material in a little more detail in another text from the same collection, the mKha'-'gro snying-thig:

"First, the 5 Evolutive Phases are Earth-Solidity, Water-Cohesion, Fire-Temperature, Wind-Motility, and Space-Spatiality. What is the sustaining impulse of these 5 Evolutive Phases? First, Space-Spatiality, which has been an open dimension since the beginningless beginning, and pristine cognitiveness, are indivisible. Pristine cognitiveness denotes that aspect within discerning appreciation (shes-rab) which has been there since the very beginning. In Space-Spatiality which has been an open dimension since the very beginning, the intrinsic lumination of pristine cognitiveness is present as a spontaneous glimmering (lam-me) lucent in 5 hues. In these, since there cannot be found any good or evil, samsara or nirvana, whatsoever, it is called "pure." Because it remains (this way) from the very beginning, it is called "spontaneous (not dependent on causes and conditions)." In this above-mentioned pristine cognitiveness, there is not found any samsara or nirvana. If there is not any of this from the very beginning, it is

meaningless (to say) that the result of pristine cognitiveness comes now by attainment. Fire doesn't come out (as something new) although one puts it in water (and it remains burning); therefore, although going astray exists as pristine cognitiveness from the very beginning, in the end, when going astray has been swept away, this is the essence of Buddhahood.

The reason the 5 Evolutive Phases come about (is as follows): first, in the open dimension which is without a beginning, by the presence of the creative functional dynamics of pristine cognitiveness, 5 hues arise. Since there exists incessant intrinsic perceptivity within this, there arises a prehensive activity within the 5 hues. This concrete prehension (dngos-'dzin) is called Wind-Motility. In reality it is the creative functional dynamics of intrinsic perceptivity. Among these, the intrinsic lumination of the Distinctness Pristine Cognitiveness is red, and by going astray into a concrete prehension of this, there arises the red of Fire-Temperature. Within this, the metabolic capacity (drod) of the creative functional dynamics of intrinsic perceptivity which is Wind-Motility, arises. Then, Sameness Pristine Cognitiveness radiates as a yellow hue, and by prehension being born within this, Earth-Solidity arises. Then, Mirror-Like Pristine Cognitiveness arises as a white hue, and within this, since there is born a prehension of this, Water-Cohesion arises. Accom-

plished Pristine Cognitiveness radiates a green hue, and because within this there is born a prehension of this, Wind-Motility arises. The Evolutive Phase of Space-Spatiality remains the same as pristine cognitiveness from the very beginning, and in the end doesn't undergo transformation. Since there arises a prehension (of these hues) as "this", within the 5 hues which are the intrinsic lumination of pristine cognitiveness, Earth-Solidity, Water-Cohesion, Fire-Temperature, and Wind-Motility arise. Because these are informed by the creative functional dynamics of intrinsic perceptivity, it is called Wind-Motility. Because the 4 Evolutive Phases are informed by Wind-Motility, by the informing of the Evolutive Phase Wind-Motility by Wind-Motility, the power of lifting arises; by the informing of Fire-Temperature by Wind-Motility, burning and heat arises; by the informing of Water-Cohesion by Wind-Motility, the power of flowing, wetness, and coolness arises; and by the informing of Earth-Solidity by Wind-Motility, hardness and the ability to support arises. By the birth of prehension within the 5 Pristine Cognitivenesses the 5 Evolutive Phases are established as substances, and because they are moved by the creative functional dynamics of intrinsic perceptivity from the very beginning, creative functional dynamics arises from the Evolutive Phases. By the combination of these (Phases) the environment of the perishable world-system arises. The way it originates (is as follows):

because there is born a prehension in regard to the open dimension which has been there from the very beginning, the mandala of Wind-Motility originates; on this Water-Cohesion originates; on this then Earth-Solidity; and Fire-Temperature is the creative functional dynamics of Wind-Motility, and it informs the other 3. This is the way the external Evolutive Phases originate." (13)

And finally, Klong-chen-pa deals with the Evolutive Phases in a comprehensive manner in his Zab-mo yang-thig:

"The facticity of the Evolutive Phases (is as follows): from the presence of the Ground of Being, samsara and nirvana appear as the creative functional dynamics of the Evolutive Phases. The fact of the active energy (dangs-ma) appears as the self-irradiation (rang-gdangs) of the 5 Pristine Cognitions. The fact of the structive energy (snyigs-ma) appears as Earth, Water, Fire, Wind, and Space.

The meaningof the term (Evolutive Phase is as follows): (they) evolve because they arise as an incessant play within this irradiativeness. Internally, because pure in the self-presentation of pristine cognitiveness, they are called the active energy of the 5 Evolutive Phases, and externally, because arising as mistaken appearance due to inveterate tendencies (bag-chags), they are called the structive energy of the Evolutive Phases.

Its 4 divisions (are as follows): active energy, structive energy, structive aspect of active energy (dangs-ma'i snyigs-ma), and active aspect of structive energy (snyigs-ma'i dangs-ma). Active energy is the 5 Great Spontaneous Evolutive Phases: Solidification which is without hardness, Cohesion which is without wetness, Temperature which is without heat, Motility which is without movement, and Spatiality which is irradiative without being a pervasive extent. Since their function is to provide a milieu (gnas) for the arising of pristine cognitiveness and the founding strata of meaningful existence, they are the hidden Evolutive Phases, pure pristine cognitiveness. Structive energy is the common cognitive experiences of the hardness of Earth, the wetness of Water, the heat of Fire, the movement of Wind, and the extensiveness of Space. These as internal Evolutive Phases become the basis of the body. The structive aspect of active energy is the Earth-Solidity of flesh and bones, the Water-Synthesis of blood and bodily fluids, the Fire-temperature of metabolism, the Wind-Motility of breathing, and the Space-Spatiality of of the bodily cavities. The active aspect of the structive energy is the 5 (colors of) the rainbow, which are the active aspect of the external structive energy of the Evolutive Phases of Earth, Fire, Water, Wind, and Space.
Examples (to illustrate the Evolutive Phases): the shining of the sun's light, or the appearance of light from a crystal.

Defining Characteristics (of the Evolutive Phases are as follows): 1. generally, that from which they arise, and 2. the defining characteristics in particular. The defining characteristics of the Great Evolutive Phases of the 5 Pristine Cognitions (are as follows): the 5 hues which are the self-irradiation of intrinsic perceptivity are prehended in their aspects of appearance and embodied existence, and since they are the spreading of the 4 (Evolutive Phases), if we divide them, (they are) Gravitation which is without hardness, Cohesion which is without wetness, Motility which is without movement, burning which is without heat, and radiativeness which is without extension. The Great Evolutive Phases of the 5 Pristine Cognitions are: Earth-Buddhalocanā, Water-Māmakī, Fire-Pāṇḍarā-vasinī, Wind-Tārā, and Space-Dhātvīśvarī. All the Buddhas of the 5 Life-Styles (rigs-lnga) reside in the creative center of the 5 Female Poles of Buddhahood (yum), and from the reflected light (gzugs-brnyan-gyi 'od) which is the radiation of these, although it appears as the 5 structive energies, it appears out of the creative functional dynamics or radiation of the 5 Female Poles of Buddhahood. Since all the entities of existence, samsara and nirvana, appearance and projective existence, remain in the Totality-field which is in union with the 5 Female Poles of Buddhahood, they are called the creative

womb of all of appearance and projective existence.

The defining characteristics of the structive energy of the 5 Evolutive Phases (is as follows): the reflected light is present as the ground for the arising of each (Evolutive Phase), and remains in the Totality-field of the Evolutive Phases as dualistic phenomena. If we divide them: firmness and hardness, wetness, heat, movement, and localization. Since they are like the Evolutive Phases appearing in a dream, they provide the milieu and foundation of the beings and their environment.

The way they appear is twofold. First, the 5 active energies (appear as follows): from the motive force (snying-po) of the 5 hues of presentational immediacy present from the very beginning in the creative center of the 5 hues, like the light within a crystal, the hues which are reflected and radiate outward are self-presentational because they are moved by the motility of pristine cognitiveness.

The way the structive energies appear (is as follows): present as the 5 structive energies from the reflected light, appears Earth which is hard, from the white hue of gravitational energy in which there is no solidity; Water which is wet, from the yellow hue of cohesion in which there is no wetness; Fire which is hot, from the red hue of temperature in which there is no heat; Wind which is moving, from the green hue of Motility

in which there is no movement; and Space which localizes (things) and is extended, from the blue hue of spatiality which is not extended." (14)

The key idea in all these discussions is that the Evolutive Phases have two modes of functioning, the active (dangs-ma), emblematic of negentropic, energetic functioning of the pristine cognitiveness which is the quintessence (bcud) of the evolutionary process; and the structive, emblematic of entropic, structural materialization of the commonly experienced Evolutive Phases which make up the environment (gnod). In the early stages of the universe, activity and temperature were so great that matter and energy had not yet been separated as in the "cool" state of the universe we find ourselves in today. But these two modes are complementary, and this idea is being understood in recent re-evaluations of the meaning of the 2nd Law of Thermodynamics, which formerly led to the picture of the universe as a closed system tending towards a state of maximum disorder, i.e., entropy. E. Jantsch states regarding this conception:

> "Whereas in our everyday world some of the physical inanimate systems we are dealing with may be assumed to be closed and well in equilibrium, this is not so in an evolutionary world in which galaxies and stars - but also living organisms, social organizations, and spiritual ideas - may be considered as partially open systems in a state of non-equilibrium. The new field of non-equilibrium thermodynamics deals with such systems. It has recently discovered the principle of "order through fluctuation": If systems of any kind are in a sufficiently non-equilibrium state, have many degrees of freedom, and are partially open to the inflow of energy (information) and/or matter, the ensuing instabilities do not

> lead to random behavior (even if the initiating fluctuation and the mutation as such are random); instead they tend to drive the system to a new dynamic regime which corresponds to a new state of complexity. In such a transition, the system requires new margins to produce entropy, new possibilities for action. A closed equilibrium system, with monotonously increasing entropy, would be characterized by decreasing activity and entropy production." (15)

Our static, perishable world-system, as presented in the standard form of Mount Meru, the 7 mountain chains and oceans, and the 4 continents, is an imaginative model of our world as a closed system which is running down. Experientially speaking it represents a hardening into dead forms of our open universe of experience. Yet in such an evolutionary process ever-new possibilities for self-organization are being presented with each new instability, if we can be guided by the organizing information-energy (rig-pa, whose creative functional dynamics (rtsal) is pristine cognitiveness) of life. But instabilities (change) usually increase our randomness and disorganization, both physically and mentally:

> "If a large part of the universe may be assumed to be in a state of sufficient non-equilibrium - as, indeed, seems to be the case, - we may then come to a revision of the old static cosmos which would be of farthest-reaching consequences: it seems that on the cosmic scale it is no longer necessary to assume monotonous entropy increase in all physical systems. Physical energy itself may be an agent in the service of evolution. It would then be superfluous to assume a dualism between physical and psychic organization - all organization in the universe would be physical and psychic at the same time.... Modern physics is currently looking for 'hidden variables' in atoms which transcend randomness and probability, and comes close to inferring what, in human beings, we would call intelligence." (16)

Some of these modern physicists are suggesting that these "hidden

variables" are somehow connected with consciousness, although this is to fall into a mentalism which we have already rejected. The active energy of the Evolutive Phases, present as the creative functional dynamics of intrinsic perceptivity, which are the 5 Pristine Cognitions, do not belong to <u>sems</u> (mind), but to the realm of <u>sems-nyid</u>, Cognitive Absoluteness as the information-energy of an intelligent universe. Mind, as we have seen, is a "slanted view", a drop in the optimal information-energy of the organism as an organizing agent (<u>ma-rig-pa</u>), which manifests as an appropriation and reification of the energy dynamics of the universe flowing through us. Out of this develops the duality of the apprehending and the apprehendable. Intrinsic perceptivity, however, is inseparable from the Totality-field and its unitary functioning (pictured in the texts as a self-presentation or intrinsic luminosity, as opposed to a reflected radiation), which presents its evolutionary transformations in the form of the 5 hues of Pristine Cognitiveness (we see it now in one light, now in another). One mode, for example, is the Pristine Cognition of Spatiality as the Totality-field, which is an open dimension of lived spatiality. But in our usual "dull" way of perceiving we convert it into an "opaque wall" of sky, standing over against us, space as a container. And thus there is the origin of re-presented, measurable space as distance, whose origin in the oriented spatiality of lived experience is lost. This relation of the

Evolutive Phases and the Pristine Cognitions is also portrayed between the 8 perceptive functions (rnam-par shes-pa) and the Pristine Cognitions. The sku-gsum la 'jug-pa'i mdo states:

> "The subsiding of the Pervasive Stratum (of the world-horizon) (kun-gzhi) in the Totality-field is the Totality-field of meaning (chos-kyi dbyings). The subsiding of the Stratum-bound perceptive function (kun-gzhi rnam-shes) in the Totality-field is the Mirror-like Pristine Cognitiveness. The subsiding of the conceptualizing perceptive function (yid-shes) in the Totality-field is the Sameness Pristine Cognitiveness. The subsiding of the emotively-toned ego-act (nyon-yid) in the Totality-field is the Distinctness Pristine Cognitiveness. The subsiding of the 5 sense perceptions in the Totality-field is the Accomplished Pristine Cognitiveness." (17)

The image here is one of eddies appearing and disappearing in the infinite ocean of the Totality-field of Being.

These correlations make it even more clear that the distinction here is not between mind/consciousness and matter, but between active and structive energies, between energy-as-such and energy as a substantial quantiity (see above p. 10), each tending in a cetain "direction" (e.g., centrifugality and centripetality), although never wholly one or the other, as in the Chinese conception of yin and yang (i.e., yin has a great yin and a small yin, yang a great yang and small yang). Within the active energy there is a structive aspect, and vice versa. The Western world has seemed singularly unable to understand such polarities, but rather constructs its dialectics out of opposites.

It must be remembered that both of these tendencies are fluctuations within the Ground of Being. There is a "breaking away" from

the Ground, although the Ground is unaffected by the fluctuations of samsara and nirvana. Such a cosmology, in which the universe is a vacuum fluctuation with a zero net value for all conserved quantities, in other words, it can spring from "nothing", is outlined by E.P. Tryon:

> "quantum electrodynamics reveals that an electron, positron, and photon occasionally emerge spontaneously from a perfect vacuum. When this happens, the 3 particles exist for a brief time, and then annihilate each other, leaving no trace behind. (Energy conservation is violated, but only for the brief particle lifetime Δt permitted by the uncertainty relation $\Delta E \Delta t \sim h$, where ΔE is the net energy of the particles and Δh is Planck's constant.) The spontaneous, temporary emergence of particles from a vacuum is called vacuum fluctuation, and is utterly commonplace in quantum field theory. If it is true that our universe has a zero net value for all conserved quantities, then it may simply be a fluctuation of the vacuum, the vacuum of some large space in which our universe is imbedded." (18)

Now returning to the evolution of sentient beings in the universe, Klong-chen-pa continues in his mKha'-'gro snying-thig, proceeding from the outer through the inner to the hidden processes (gsang) involved in the Evolutive Phases, the environment being just the outer process:

> "Now the way the sentient beings who are the internal quintessence (of life), originate (is as follows): in the center of the double-vajra-shaped Wind mandala, by the creative functional dynamics of pristine cognitiveness, a slight warmth arises. Since this heats up Water-Cohesion, vapor arises like smoke through a hole, and since the vapor heats up the Earth, like the winnowing of chaff, heat informs all of them. (19) From the active energy of the 4 Evolutive Phases, and from their

being mixed with the hues intrinsic to pristine cognitiveness, 3 condensation spots of light (_'od phung-phub tsham-pa_) appear. From the first light, arise the gods which have no actuality to their presence. From this, in the form of light rays, arise the 4 divisions of the realm of formlessness. From this, out of the creative functional dynamics of intrinsic perceptivity originating a prehension of movement, the 17 statuses of the realm of form originate. (20) Then, from appropriating this prehension of movement which has originated, arise the 20 statuses of the realm of sensuousness. Thus, although the presence of pristine cognitiveness has always been there, by a loss of intrinsic perceptivity, innumerable sentient beings of the 6 life-forms arise. This samsara in which one has gone astray into a lack of intrinsic perceptivity, neither increases nor is destroyed. As to the origination of sentient beings which are the internal quintessence, since they arise from the active energy of the Evolutive Phases, they are called "sentient beings who are the internal quintessence (of life)."

From the second light, the sun and moon arise. First, since they arise from the quintessence of the 5 Evolutive Phases and the lucency of Space, they remain in Space. Because they are the creative functional dynamics of pristine cognitiveness, they are able to shine on everything. Since they arise from

the active energy of Fire-Temperature, they are hot. Further, since the sun is the primary (instance) of the active energy of Fire-Temperature, it is hot; and since the moon is the primary instance of the active energy of Water-Cohesion, it is cool. From the creative functional dynamics of these two, there is present the light from many stars. (21)

The Evolutive Phases are produced one by one, and mutually assist one another. Further, after the Evolutive Phases have been produced one by one, at the time they mutually assist one another in the spring, since the (activity of the) Evclutive Phases increases, daytime is longer and it is warmer. When the active energy of the Evolutive Phases are equal, day and night are equal. When the Evolutive Phases are not equal, night is shorter because the power of one has increased slightly. Since the Evolutive Phases then gradually act to restrain each other, by the decline in the activity of the Evolutive Phases, days get shorter and warmth decreases. Because, at a certain time, the Evolutive Phases are dispersed, the sun goes down; then, having been organized again by Wind-Motility, they (operate) just like before. The changes of the moon and the stars are the same. (22)

Further, from the center of the double-vajra of Wind-Motility, since warmth arises, it heats Water-Cohesion. The vapor which arises from the Water heats and informs Earth-Solidity. By the

creative functional dynamics of Wind-Motility, heat arises by its own power (friction). For example, by strongly rubbing two sticks together, they are informed by heat, which is like fire arising. The heat-informed vapor on the Earth, by rising into the sky, forms fog. Rain comes from the thickening of the fog, like the formation of curds or dew on the cover of a pot. (23) Therefore, the 5 Evolutive Phases are produced one by one.

Because they mutually assist one another, from the increasing (activity) of the Evolutive Phases, the sprouts, leaves, flowers, and fruits of all the trees, grasses, and fruit-trees grow gradually. In autumn, when the creative functional dynamics of the Evolutive Phases are reduced, all the fruits ripen. When the functioning of the Evolutive Phases is low, they mutually restrain one another. (24) Because the sap, etc. gradually goes down, the trees, grasses, and fruits dry up, and all the sentient beings decline and darken. In the spring, all the sap, etc. is low and in the decline, and the active energy of the Evolutive Phases mutually extinguish each other. From there, the Evolutive Phases become stronger, and one by one produce each other as above. Thus, we have explained the way the sentient beings who are the internal quintessence, originate.

Now, (we shall explain)the hidden level. By the 5 bioenergetic

triggering processes (rgyu'i thig-le), which are the active energy of the active energy (of the Evolutive Phases), are produced all the happiness and frustration of samsara and nirvana, just like the flesh, blood, warmth, breath, and mind belonging to the body which is produced and nourished by the fruits, flowers, and grasses which are the active energy of the Evolutive Phases. Although it exists within our own pristine cognitiveness from the very beginning, since we don't understand this, by engaging in affirmation and negation regarding the creative functional dynamics of pristine cognitiveness, there is the split into samsara and nirvana. By lack of intrinsic perceptivity, one enters into the mother's womb, and by the combination of the bioenergetic triggering processes of the parents, and pristine cognitiveness informed by intrinsic perceptivity (rig-pa'i ye-shes), the body is formed. Further, by the mutual assistance of the 5 Evolutive Phases the body is born.

When one eats food, it is digested by Fire-Temperature, by Wind-Motility its active and structive energies are separated (25), by Water-Cohesion it is synthesized, and by Earth-Solidity it is hardened. This produces the strength of the body. The active energy informs all the formative energetic configurations (rtsa) of the body. Further, by the creative functional dynamics of the 5 Evolutive Phases having been made to

assist each other, since the active energy increases from birth and the functional dynamics are equalized until men and women are 30 years old, the active energy settles in the bodily constitution. By the coarse energy and the radiance of intrinsic perceptivity, beauty, corpulence, and level of activity are established. From 30 to 40, the active energy remains, but from then on, the 5 Evolutive Phases mutually restrain one another, and because the bodily oils become hardened, the active energy dries up; and since all the organ functions are impaired, one declines and ages. Because the strength of the Evolutive Phases have become divided, the span of life is established. Therefore, it is very important to conserve (the energy) when one is young. This is the way the body functions at the hidden level.

Taking up the more hidden level (yang-gsang)(we say): because all the interdependent relations of samsara and nirvana, happiness and frustration, are produced by the bioenergetic triggering processes, these bioenergetic inputs (thig-le) are the active energy of the active energy of the Evolutive Phases. Since the bioenergetic input of pristine cognitiveness is the basis of life, it is very important to increase and not to impair it." (26)

Finally we present an over-all view of cosmic evolution by Klong-chen-pa, where he applies the concept of the Epoch (bskal-pa)

to a larger scale than the use of it in the traditional cosmology presented above:

"In regard to the structive energies which are the outward radiation from the 5 active energies, one speaks of 3 Epochs as to facticity, meaning of the term, divisions, and explication of the meaning.

As to facticity: in the first Epoch, meaningfulness (chos-nyid) (as the pre-reflective, non-thematic aspect of experience) is split off from the universe of objects, although there is no appearance of concrete objects out of the incessant presence of the Ground of Being. In the middle Epoch, (what is to become) the result, samsara and nirvana, are split off from the spontaneous (functioning) of the Ground of Being, since the appearance of the self-presentational reflected hues (rang-snang gzugs-brnyan-gyi 'od) have broken loose from the Ground, although it is not yet the time of the (maturation into the) result. In the final Epoch, there is the splitting off of the two hues, of samsara, which is the non-understanding (of the presence of the Ground), and nirvana, which is the understanding, since they are the maturation into the entatative existence of samsara and nirvana by virtue of the split into the apprehending and the apprehendable.

As to the meaning of the term: it is called "Epoch", in view of the split into a spontaneous Epoch which is pure in its facticity, and an impure Epoch which is the self-manifestation

of the split into the apprehending and the apprehendable. As to the divisions: the first Epoch is the spontaneous (functioning) of the Ground. The middle Epoch is the outward radiancy (phyir-gsal) which is (the play of) the Founding Strata and pristine cognitiveness in 5 (phases of) reflected hues. The final Epoch is the presence of samsara which is a deceptive appearing.

As to the meaning of Epoch: the reason for the name Epoch is because these modes of appearing last for a long time, which cannot be measured in terms of years and months, etc. Thus one should know that the appearing of the reflected hues from the Ground of Being is the meaning of the first Epoch; that the appearance of the split into the apprehending and the apprehendable, on which the sentient beings and their environing-worlds are based, from these hues, is the meaning of the middle Epoch; and the appearance of the happiness and frustrations of deceptive appearing (coming) out of the split into the apprehending and the apprehendable, is the meaning of the final Epoch. The bshad-rgyud states:

> "The presentation of the facticity of the Epochs is presented according to the Ground, Path, and Goal. In the first, pristine cognitiveness is tending towards objectification, since it is present as the process and product of appearing. At this time, it is called the Epoch of Meaningfulness. In the middle Epoch, by virtue of the divisions set up by subjective apprehensions ('dzin-pa'i rnam-rtog), the presence of pristine cognitiveness subsides within, and by this the observable qualities of the environing-world are produced. This is called the Epoch of the perishable

> environing-world. In the end, there is the split into the apprehending and the apprehendable, which is the Epoch of Buddhas and sentient beings." (27)

Sentient beings represent the evolution of the active energy of the universe, which is the "quintessnce", while the environing world is a kind of "dross" (<u>snyigs-ma</u>). Life is inseparable from a universe such as ours. Tryon states, continuing his discussion of the universe as a vacuum fluctuation:

> "One might wonder how a vacuum fluctuation could occur on such a grand scale.... my answer lies in the principle of biological selection, which states that any Universe in which sentient beings find themselves is necessarily hospitable to sentient beings. I do not claim that universes like ours occur frequently, merely that the expected frequency is non-zero. The logic of the situation dictates, however, that observers always find themselves in universes capable of generating life, and such universes are impressively large. (We could not have seen this universe if its expansion-contraction time had been less than the ten-to-the-tenth years required for Homo Sapiens to evolve)." (28)

Wheeler, Misner, and Thorne, after a thousand-plus page book on gravitation according to general relativity (Geometrodynamics), conclude:

> "Dicke has pointed out that the right order of ideas may not be, here is the universe, so what must man be; but here is man, so what must the universe be? In other words: (1) What good is a universe without awareness of that universe? But: (2) Awareness demands life. (3) Life demands the presence of elements heavier than hydrogen. (4) The production of heavy elements demands thermonuclear combustion. (5) Thermonuclear combustion normally requires several ten-to-the-ninth years of cooking time in a star. (6) Several ten-to-the-ninth years of time will not and cannot be available in a closed universe, according to general relativity, unless the radius-at-maximum-expansion of that universe is several ten-to-the-ninth light years or more. So why on this view is the universe as big as it is? Because only so can man be here! In brief, the considerations of Carter and Dicke would seem to raise the idea of 'biological selection of physical constants.'" (29)

We are now in a better position to understand why it is said that the sustaining impulse (rgyu) of the mandala of Wind-Motility, which begins the evolution of the environing-world (gnod), is the collective karma of sentient beings. Karma involves the intelligent, self-regulative functioning of sentient beings who are characterized by a loss of intrinsic perceptivity (ma-rig-pa). It indicates a falling away from the unitary process of intrinsic perceptivity, whereby this process is split into mind and matter, animate life and an inanimate world. As Laszlo has said, intelligent (information-processing), creative functioning is at the basis of evolution. We do not create or determine the Ground and its spontaneous presence; but we are free to make choices in responding to this presençe, and thus either fully actualize our being or merely fall prey to situations. Being a participator in a self-organizing universe is different from being determined by it. There is, however, what might be called a "pressure" to respond and to be self-actualizing, which is known as the "Motive-force for Well-being" (bde-bar gshegs-pa'i snying-po). This is a kind of teleology, which we feel as the search for a meaningful existence, or its loss when the search is abandoned.

Thus, freedom is basic to self-actualizing/determining systems. It is neither freedom-to nor freedom-from, both of which deny freedom by making it dependent on something else. The issue of freedom verses determinism is the confused nightmare of people cut off from the unitary process of being, who engage in all sorts of postulates about

freedom and determinism based on situations seen in the light of mistaken appearing (_'khrul-snang_). The situation _can_ be seen as a Buddha-field complete with the Teacher, his message, the audience, all in its own time and place. One problem in understanding this issue has been the concept of causality:

> "since this actualization is determined as it goes along by causes which are intrinsic to the actualizing process itself, we can speak of 'actuality' as immanent causality, being continuous, and not linear and dotted like the traditional causal sequence, in which every event is linked to the preceeding and succeeding event with rigid unalterability. The causal situation here is rather a fluid one, and within it new patterns of performance are possible at any moment." (30)

Such a view on causality is further defined by Laszlo as follows:

> "reciprocity of the causality connecting A & B consists in this: as a result of a cause emanating from A, B manifests a modification in its relations to A, which modification _itself_ can be regarded as the cause produced by B, acting on A, and resulting from the effect of the primal cause (A acting on B). Hence every cause gives rise to an effect and every effect in turn acts as cause.... How can a subject effectively determine itself in an interdeterminational relationship? The answer must be, through the modification of the prime cause in the reciprocal cause, i.e., by qualifying the original impetus into a specific reciprocal cause corresponding to the exigencies of its own inner structure.... A concept of the universe as an interdetermined network of mutually qualifying causes and effects assigns freedom to particular entities in processing their inputs ("prime causes") and producing outputs ("reciprocal causes"). The more factors of indetermination the entity has internalized, i.e., the more it is in control of the sphere of the universe wherein it finds itself, the freer it is." (31)

The task presented according to Buddhist Cosmology is to continually free ourselves from the conditioning of our past evolution. This loss of freedom in evolution by man is depicted in the so-called "Buddhist Genesis" story, in which man is seen as a fallen god from the realm of

Ābhāsvarā ('od-gsal) deities of the Realm of Form. In a text by Tsong-kha-pa (32), he makes use of this myth in elaborating the meaning of the Developing Stage (bskyed-rim) of the Annutarayoga-Tantra, which is concerned with a transfigured vision of one's world obtained by the "purification" of the effects of the evolutionary process involved in being born a human being. But a proper discussion of this fascinating aspect of Buddhist Cosmology would require another major work in itself.

Notes to Chapter IV

1. Klong-chen-pa, op. cit., p. 42.
2. This is the largest order of world-systems, equalling 1,000 small world-systems of Mt. Meru, etc., to the third power. stong-gsum here is short for stong-gsum-gyi stong-chen-pa'i ('jig-rten-gyi khams) (tri-sāhasra-mahāsāhasro loka-dhātu).
3. This is the major divsion of the subject matter of Buddhist Cosmology, as presented in the Abhidharma-kośa, which begins with a discussion of the various types of sentient beings before describing the environing-world in which they live.
4. Each of the 4 Epochs is made up of 20 Interval Epochs, which makes each cosmic cycle, or Great Epoch, equal to 80 Interval Epochs.
5. These are the residences of the gods which are not founded on the Great Earth foundation, that is, those above the region of the "Thirty-Three Gods" at the summit of Mt. Meru. See Abhidharma-kośa, III, 69. (Poussin, tr., p. 164). As we shall see, this means that their "residences", originating from above, consist more of the Active Energy of the Evolutive Phases than those which originate from below (founded on the Great Earth), which are comprised of the Structive Energy.
6. The first refers to the presentation summed up in the Abhidharma-kośa. The second level has been dealt with in the previous chapter.

7. The shape would be like this: 

8. Klong-chen-pa, op. cit., pp. 41-45. For an outline of Buddhist Cosmology as summarized in the Abhidharma-kośa, see Poussin's article in The Encyclopedia of Religion and Ethics, Hastings, ed., art. "Cosmology (Buddhist)".

9. Porkert, Manfred, The Theoretical Foundations of Chinese Medicine, MIT Press, Cambridge, Mass., 1974, p. 45.

10. See chart #1, p. 33 above, right-hand column.

11. See Guenther, H.V., op. cit., note 9, p. 300. An example of gdangs in our text is found below, p. 114.

12. Klong-chen-pa dri-med 'od-zer, mKha'-'gro snying-thig, part 2, Trulku Tsewang, Jamyang, and L. Tashi, New Delhi, 1971, pp. 38-42.

13. ibid., pp. 70-72.

14. Klong-chen-pa dri-med 'od-zer, Zab-mo yang-thig, part 2, Trulku Tsewang, Jamyang, and L. Tashi, New Delhi, 1971, pp. 254-7.

15. Jantsch, E., Design for Evolution, Braziller, New York, 1975, p. 37.

16. ibid., pp. 37-8.

17. Quoted in Klong-chen-pa, Theg-pa mtha'-dag-gi don-gsal-bar byed-pa grub-mtha' rin-po-che'i mdzod, Dodrup Chen Rinpoche, Gangtok, Sikkim, p. 241.

18. Tryon, E.P., "Is the Universe a Vacuum Fluctuation," Nature, vol. 246, Dec., 1973, pp. 396-7.

19. See also pp. 123-4. These passages show good observations on the water-cycle. We would say that condensed water from the vapor that has risen from the earth has much potential energy, and when it falls as rain, its potential energy is converted into heat.

20. That is, there are 3 in the First-Dhyāna Heavens (bsam-gtan dang-po'i sa), 3 in the Second-Dhyāna, 3 in the Third-Dhyāna, and 8 in the Fourth-Dhyāna. Abhidharma-kośa, III, 1, has 24 places for the Kāma-dhātu (Poussin, tr., p. 2).

21. Klong-chen-pa doesn't talk about the third spot of light.

22. This follows the Chinese account of the workings of the Evoluitve Phases in regard to the seasons. Such a type of thinking is explained by Porkert in regard to Chinese medicine, which makes great use of the 5 Evolutive Phases and the system of correspondences which they set up:

> "Chinese medicine, like the other Chinese sciences, defines data on the basis of the inductive and synthetic mode of cognition. Inductivity corresponds to a logical link between 2 effective positions at the same time in different places in space. (Conversely, causality is the logical link between two effective positions given at different times at the same place in space.) In other words, effects based on positions that are separate in space yet simultaneous in time are mutually inductive and thus are called inductive effects.... Now Western man, as a consequence of 2,000 years of intellectual tradition, persists in the habit of making causal connections first and inductive links, if at all, only as an afterthought. This habit must still be considered the biggest obstacle to an adequate appreciation of Chinese science in general and of Chinese medicine in particular." (Porkert, M., op. cit., p. 5)

Clearly the relation of the Evolutive Phases and the seasons is inductive, not causal.

23. See above p. 121, and note 19.

24. These correspond to the "production sequence" (hsiang-sheng-hsu, 相生序) and the "checking sequence" (hsiang-k'o-hsu, 相克序) of Chinese Evolutive Phase theory.

25. The active energy derived from food corresponds to the Chinese 氣, ch'i, while the structive energy to hsueh, 血, which is usually inadequately translated as "blood", which is included in what is meant by hsüeh, but not exhaustive of it. Porkert, following the Ling-shu, defines it as, "a fluid (chih, 汁) that is derived by transformation (pien-hua) from the energy of food." (Porkert, op. cit., p. 185.)

26. Klong-chen-pa, mKha'-'gro snying-thig, op. cit., pp. 72-8.

27. Klong-chen-pa, Zab-mo yang-thig, op. cit., pp. 260-2.

28. Tryon, op. cit., p. 397.

29. Wheeler, J., Misner, C., and Thorne, K., Gravitation, Freeman & Co., San Francisco, 1973, pp. 1216-7.

30. Guenther, H.V., The Life and Teachings of Naropa, Oxford Univ. Press, London, 1963, p. 115.

31. Laszlo, E., Introduction to Systems Philosophy, Gordon & Breach, New York, 1973, p. 236.

32. Dpal gsang-ba 'dus-pa'i gnad-kyi don gsal-ba, Peking ed., vol. 160, no. 6196.

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